(12) UK Patent Application (19) GB (11) 2 345 486 (13) A

(43) Date of A Publication 12.07.2000

(21) Application No 9929973.7

(22) Date of Filing 17.12.1999

(30) Priority Data
(31) 9900518 (32) 11.01.1999 (33) GB
(31) 9915510 (32) 03.07.1999

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(74) continued overleaf

(51) INT CL[7]
C07D 471/04 , A61K 31/517 31/519 31/54 , C07D 417/14 , // A61P 11/00 17/06 19/02 35/00 (C07D 471/04 221:00 239:00) (C07D 417/14 239:94)

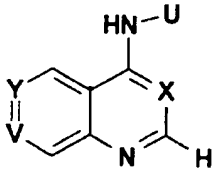
(52) UK CL (Edition R)
C2C CAA CLZ CNF CRM C1382 C1386 C1403 C1470 C1549 C1582 C1604 C213 C214 C215 C22Y C220 C226 C246 C25Y C250 C252 C253 C256 C28X C30Y C31Y C311 C313 C32Y C322 C338 C357 C36Y C364 C396 C43X C613 C616 C617 C620 C660 C670 C680 C694 C697 C699 C775 C80Y C802
U1S S1313 S1321 S2416

(56) Documents Cited
WO 99/35146 A1 WO 99/35132 A1

(58) Field of Search
UK CL (Edition R) C2C CLZ CNF CRM
INT CL[7] C07D
Online:CAS ONLINE,WPI,EPODOC,JAPIO

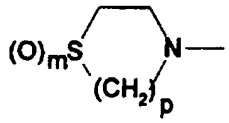
(54) Abstract Title
Heteroaromatic protein tyrosine kinase inhibitors

(57) Substituted heteroaromatic compounds of formula (I)



(I)

wherein X is N or CH;
Y is CR^1 and V is N;
or Y is N and V is CR^1;
or Y is CR^1 and V is CR^2;
or Y is CR^2 and V is CR^1;
R^1 represents a group Q-(CH_2)q-Ar, wherein Q is a group of formula



wherein m is 1 or 2; p is 1 or 2; q is 1, 2, 3 or 4; and Ar is selected from phenyl, furan, thiophene, pyrrole and thiazole, each of which may optionally be substituted by one or two halo, C_{1-4} alkyl or C_{1-4} alkoxy groups;
R^2 is selected from the group comprising hydrogen, halo, hydroxy, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4}alkylamino and di[C_{1-4}alkyl]amino;

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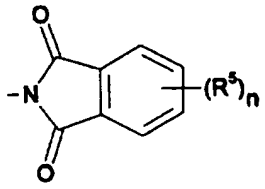
(57) cont

U represents a phenyl, pyridyl, 3H-imidazolyl, indolyl, isoindolyl, indolinyl, isoindolinyl, 1H-indazolyl, 2,3-dihydro-1H-indazolyl, 1H-benzimidazolyl, 2,3-dihydro-1H-benzimidazolyl or 1H-benzotriazolyl group, substituted by an R^3 group and optionally substituted by at least one independently selected R^4 group;
R^3 is selected from a group comprising benzyl, halo-, dihalo- and trihalobenzyl, benzoyl, pyridylmethyl, pyridylmethoxy, phenoxy, benzyloxy, halo-, dihalo- and trihalobenzyloxy and benzenesulphonyl;
or R^3 represents a group of formula



wherein each R^5 is independently selected from halogen, C_{1-4}alkyl and C_{1-4}alkoxy; and n is 0 to 3;
each R^4 is independently hydroxy, halogen, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, amino, C_{1-4} alkylamino, di[C_{1-4} alkyl]amino, C_{1-4} alkylthio, C_{1-4} alkylsulphinyl, C_{1-4} alkylsulphonyl, C_{1-4} alkylcarbonyl, carboxy, carbamoyl, C_{1-4} alkoxycarbonyl, C_{1-4} alkanoylamino, N-(C_{1-4} alkyl)carbamoyl, N,N-di(C_{1-4} alkyl)carbamoyl, cyano, nitro and trifluoromethyl,
and salts and solvates thereof, are protein tyrosine kinase inhibitors.

HETEROCYCLIC COMPOUNDS

The present invention relates to a series of substituted heteroaromatic compounds, methods for their preparation, pharmaceutical compositions containing them and their use in medicine. In particular, the invention relates to quinoline, quinazoline, pyridopyridine and pyridopyrimidine derivatives which exhibit protein tyrosine kinase inhibition.

Protein tyrosine kinases catalyse the phosphorylation of specific tyrosyl residues in various proteins involved in the regulation of cell growth and differentiation (A.F. Wilks, Progress in Growth Factor Research, 1990, 2, 97-111; S.A. Courtneidge, Dev. Supp.l, 1993, 57-64; J.A. Cooper, Semin. Cell Biol., 1994, 5(6), 377-387; R.F. Paulson, Semin. Immunol., 1995, 7(4), 267-277; A.C. Chan, Curr. Opin. Immunol., 1996, 8(3), 394-401). Protein tyrosine kinases can be broadly classified as receptor (e.g. EGFr, c-erbB-2, c-met, tie-2, PDGFr, FGFr) or non-receptor (e.g. c-src, lck, zap70) kinases. Inappropriate or uncontrolled activation of many of these kinase, i.e. aberrant protein tyrosine kinase activity, for example by over-expression or mutation, has been shown to result in uncontrolled cell growth.

Aberrant activity of protein tyrosine kinases, such as c-erbB-2, c-src, c-met, EGFr and PDGFr have been implicated in human malignancies. Elevated EGFr activity has, for example, been implicated in non-small cell lung, bladder and head and neck cancers, and increased c-erbB-2 activity in breast, ovarian, gastric and pancreatic cancers. Inhibition of protein tyrosine kinases should therefore provide a treatment for tumours such as those outlined above.

Aberrant protein tyrosine kinase activity has also been implicated in a variety of other disorders: psoriasis, (Dvir et al, J.Cell.Biol; 1991, 113, 857-865), fibrosis, atherosclerosis, restenosis, (Buchdunger et al, Proc.Natl.Acad.Sci. USA; 1991, 92, 2258-2262), auto-immune disease, allergy, asthma, transplantation rejection (Klausner and Samelson, Cell; 1991, 64, 875-878), inflammation (Berkois, Blood; 1992, 79(9), 2446-2454), thrombosis (Salari et al, FEBS; 1990, 263(1), 104-108) and nervous system diseases (Ohmichi et al, Biochemistry, 1992, 31, 4034-4039). Inhibitors of the specific protein tyrosine kinases involved in these diseases eg PDGF-R in restenosis and EGF-R in psoriasis, should lead to novel therapies for

such disorders. P56lck and zap 70 are indicated in disease conditions in which T cells are hyperactive e.g. rheumatoid arthritis, autoimmune disease, allergy, asthma and graft rejection. The process of angiogenesis has been associated with a number of disease states (e.g. tumourogenesis, psoriasis, rheumatoid arthritis) and this has been shown to be controlled through the action of a number of receptor tyrosine kinases (L.K. Shawver, DDT, 1997, 2(2), 50-63).

It is therefore a general object of the present invention to provide compounds suitable for the treatment of disorders mediated by protein tyrosine kinase activity, and in particular treatment of the above mentioned disorders.

In addition to the treatment of tumours, the present invention envisages that other disorders mediated by protein tyrosine kinase activity may be treated effectively by inhibition, including preferential inhibition, of the appropriate protein tyrosine kinase activity.

Broad spectrum inhibition of protein tyrosine kinase may not always provide optimal treatment of, for example tumours, and could in certain cases even be detrimental to subjects since protein tyrosine kinases provide an essential role in the normal regulation of cell growth.

It is another object of the present invention to provide compounds which preferentially inhibit protein tyrosine kinases, such as EGFr, c-erbB-2, c-erbB-4, c-met, tie-2, PDGFr, c-src, lck, Zap70, and fyn. There is also perceived to be a benefit in the preferential inhibition involving small groups of protein tyrosine kinases, for example groups including two or more of c-erbB-2, c-erbB-4, EGF-R, lck and zap70.

A further object of the present invention is to provide compounds useful in the treatment of protein tyrosine kinase related diseases which minimise undesirable side-effects in the recipient.

The present invention relates to heterocyclic compounds which may be used to treat disorders mediated by protein tyrosine kinases and in particular have anti-cancer properties. More particularly, the compounds of the present invention are potent inhibitors of protein tyrosine kinases such as such as EGFr, c-erbB-2, c-erbB-4, c-

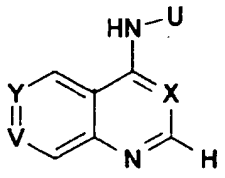
met, tie-2, PDGFr, c-src, lck, Zap70, and fyn, thereby allowing clinical management of particular diseased tissues.

The present invention envisages, in particular, the treatment of human malignancies, for example breast, non-small cell lung, ovary, stomach, and pancreatic tumours, especially those driven by EGF-R or erbB-2, using the compounds of the present invention. For example, the invention includes compounds which are highly active against the c-erbB-2 protein tyrosine kinase often in preference to the EGF receptor kinase hence allowing treatment of c-erbB-2 driven tumours. However, the invention also includes compounds which are highly active against both c-erbB-2 and EGF-R receptor kinases hence allowing treatment of a broader range of tumours.

The present invention also includes compounds which are active against lck and/or zap70 receptor kinases; these may also be active against c-erbB-2 and/or EGF-R receptor kinases. The compounds may be selective towards lck and/or zap70 in comparison to c-erbB-2 and/or EGF-R.

More particularly, the present invention envisages that disorders mediated by protein tyrosine kinase activity may be treated effectively by inhibition of the appropriate protein tyrosine kinase activity in a relatively selective manner, thereby minimising potential side effects.

Accordingly, the present invention provides a compound of formula (I)



(I)

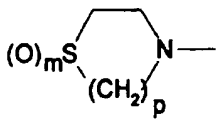
or a salt or solvate thereof;

wherein X is N or CH;

Y is CR^1 and V is N;
or Y is N and V is CR^1;
or Y is CR^1 and V is CR^2;

or Y is CR^2 and V is CR^1;

R^1 represents a group Q-$(CH_2)q$-Ar, wherein Q is a group of formula



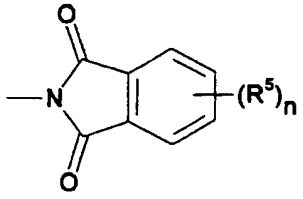
wherein m is 1 or 2; p is 1 or 2; q is 1, 2, 3 or 4; and Ar is selected from phenyl, furan, thiophene, pyrrole and thiazole, each of which may optionally be substituted by one or two halo, C_{1-4} alkyl or C_{1-4} alkoxy groups;

R^2 is selected from the group comprising hydrogen, halo, hydroxy, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylamino and di[C_{1-4} alkyl]amino;

U represents a phenyl, pyridyl, 3H-imidazolyl, indolyl, isoindolyl, indolinyl, isoindolinyl, 1H-indazolyl, 2,3-dihydro-1H-indazolyl, 1H-benzimidazolyl, 2,3-dihydro-1H-benzimidazolyl or 1H-benzotriazolyl group, substituted by an R^3 group and optionally substituted by at least one independently selected R^4 group;

R^3 is selected from a group comprising benzyl, halo-, dihalo- and trihalobenzyl, benzoyl, pyridylmethyl, pyridylmethoxy, phenoxy, benzyloxy, halo-, dihalo- and trihalobenzyloxy and benzenesulphonyl;

or R^3 represents a group of formula

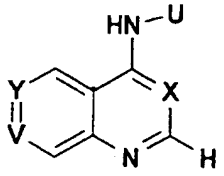


wherein each R^5 is independently selected from halogen, C_{1-4} alkyl and C_{1-4} alkoxy; and n is 0 to 3;

each R^4 is independently hydroxy, halogen, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, amino, C_{1-4} alkylamino, di[C_{1-4} alkyl]amino, C_{1-4} alkylthio, C_{1-4} alkylsulphinyl,

C_{1-4} alkylsulphonyl, C_{1-4} alkylcarbonyl, carboxy, carbamoyl, C_{1-4} alkoxycarbonyl, C_{1-4} alkanoylamino, N-(C_{1-4} alkyl)carbamoyl, N,N-di(C_{1-4} alkyl)carbamoyl, cyano, nitro and trifluoromethyl.

In another aspect the present invention provides a compound of formula (I)

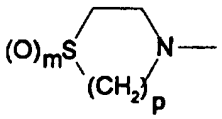


(I)

or a salt of solvate thereof;

wherein X, Y, V, R^2, U, R^3 and R^4 are as defined above;

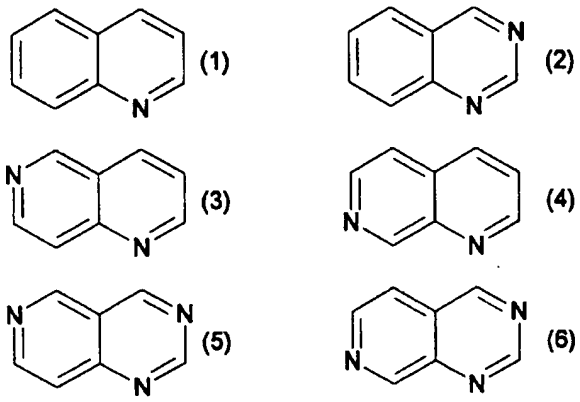
and wherein R^1 represents a group Q-(CH_2)q-Ar, wherein q and Ar are as defined above; and Q is a group of formula



in which m is 0 and p is 1.

Solvates of the compounds of formula (I) are also included within the scope of the present invention.

The definitions for X, Y and V thus give rise to a number of possible basic ring systems for the compounds of formula (I). In particular the compounds may be contain the following basic ring systems:



It will be seen that for compounds containing the basic ring system (1) the group R^1 may be at the 6- or 7-position; the compounds in which R^1 is in the 6-position are of particular interest in the context of c-erbB-2 and/or EGFr activity whereas the compounds in which R^1 is in the 7-position are of particular interest in the context of lck and/or zap70 activity.

It will be seen that for compounds containing the basic ring system (2) the group R^1 may be at the 6- or 7-position; the compounds in which R^1 is in the 6-position are of particular interest in the context of c-erbB-2 and/ or EGFr activity whereas the compounds in which R^1 is in the 7-position are of particular interest in the context of lck and/or zap70 activity.

Ring systems (1), (2), (5) and (6) are preferred; ring systems (2), (5) and (6) are more preferred; ring systems (2) and (6) are most preferred.

Alkyl groups containing three or more carbon atoms may be straight, branched or cyclised; preferably they are straight or branched. References to a specific alkyl group such as "butyl" is intended to refer to the straight chain (n-) isomer only. References to other generic terms such as alkoxy, alkylamino etc. are to be interpreted analogously.

Suitable values for the various groups listed above within the definitions for R^1, R^2, R^4 and R^5 are as follows:
halo is, for example, fluoro, chloro, bromo or iodo; preferably it is fluoro, chloro or bromo, more preferably fluoro or chloro;

C_{1-4} alkyl is, for example, methyl, ethyl, propyl, isopropyl, butyl, isobutyl, sec-butyl or tert-butyl; preferably it is methyl, ethyl, propyl, isopropyl or butyl, more preferably methyl;

C_{2-4} alkenyl is, for example, ethenyl, prop-1-enyl or prop-2-enyl; preferably it is ethenyl;

C_{2-4} alkynyl is, for example, ethynyl, prop-1-ynyl or prop-2-ynyl; preferably it is ethynyl;

C_{1-4} alkoxy is, for example, methoxy, ethoxy, n-propoxy, isopropoxy, n-butoxy, isobutoxy, sec-butoxy or tert-butoxy; preferably it is methoxy, ethoxy, propoxy, isopropoxy or butoxy; more preferably it is methoxy;

C_{1-4} alkylamino is, for example, methylamino, ethylamino or propylamino; preferably it is methylamino;

di[C_{1-4} alkyl]amino is, for example, dimethylamino, diethylamino, N-methyl-N-ethylamino or dipropylamino; preferably it is dimethylamino;

C_{1-4} alkylthio is, for example, methylthio, ethylthio, propylthio or isopropylthio, preferably methylthio;

C_{1-4} alkylsulphinyl is, for example, methylsulphinyl, ethylsulphinyl, propylsulphinyl or isopropylsulphinyl, preferably methylsulphinyl;

C_{1-4} alkylsulphonyl is, for example, methylsulphonyl, ethylsulphonyl, propylsulphonyl or isopropylsulphonyl, preferably methylsulphonyl;

C_{1-4} alkylcarbonyl is, for example methylcarbonyl, ethylcarbonyl or propylcarbonyl;

C_{1-4} alkoxycarbonyl is, for example, methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, butoxycarbonyl or tert-butoxycarbonyl;

C_{1-4} alkanoylamino (where the number of carbon atoms includes the CO functionality) is, for example, formamido, acetamido, propionamido or butyramido;

N-(C_{1-4} alkyl)carbamoyl is, for example, N-methylcarbamoyl or N-ethylcarbamoyl;

N,N-di(C_{1-4} alkyl)carbamoyl is, for example, N,N-dimethylcarbamoyl, N-methyl-N-ethylcarbamoyl or N,N-diethylcarbamoyl.

In an especially preferred embodiment X is N, Y is CR^1 and V is CR^2 (ring system (2) above).

In a further especially preferred embodiment X is N, Y is CR^2 and V is CR^1 (ring system (2) above).

In a further especially preferred embodiment X is N, Y is CR^1 and V is N (ring system (6) above).

In a preferred embodiment R^2 represents hydrogen, halogen or C_{1-4} alkoxy.

In a more preferred embodiment R^2 represents hydrogen, fluorine or methoxy.

In a most preferred embodiment R^2 represents hydrogen.

In a preferred embodiment the group Ar is substituted by one halo, C_{1-4} alkyl or C_{1-4} alkoxy group.

In a more preferred embodiment the group Ar is substituted by a C_{1-4} alkyl group.

In a further more preferred embodiment the group Ar does not carry any optional substituents.

In a further more preferred embodiment Ar represents furan or thiazole, each of which may optionally be substituted as indicated above.

In a most preferred embodiment Ar represents unsubstituted furan or thiazole.

The side chain Q-(CH_2)q- may be linked to any suitable position of the group Ar. Similarly, the group R^1 may be linked to the carbon atom carrying it from any suitable position of the group Ar.

In a more preferred embodiment, when Ar represents furan the side chain Q-(CH_2)q- is in the 5-position of the furan ring and the link to the carbon atom carrying the group R^1 is from the 2-postion of the furan ring.

In a further more preferred embodiment, when Ar represents thiazole the side chain Q-(CH_2)q- is in the 2-position of the thiazole ring and the link to the carbon atom carrying the group R^1 is from the 4-position of the thiazole ring.

In a preferred embodiment q is 1,2 or 3; more preferably q is 1.

In a preferred embodiment, in the group Q, p is 2.

In a further preferred embodiment, in the group Q, m is 1.

In a more preferred embodiment, in the group Q, when p is 1, m is 0, 1 or 2.

In a further more preferred embodiment, in the group Q, when p is 2, m is 1 or 2.

In a most preferred embodiment the group Q-(CH_2)q- is a (thiomorpholine-1-oxide-4-yl)-methyl group.

In a further most preferred embodiment the group Q-(CH_2)q is an *N*-thiazolidin-yl-methyl group.

The R^3 and R^4 groups may be bound to the ring system U by either a carbon atom or a heteroatom of the ring system. The ring system itself may be bound to the bridging NH group by a carbon atom or a heteroatom but is preferably bound by a carbon atom. The R^3 and R^4 groups may be bound to either ring when U represents a bicyclic ring system, but these groups are preferably bound to the ring which is not bound to the bridging NH group in such a case.

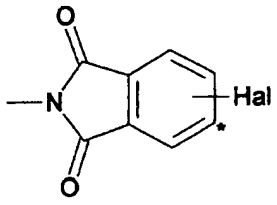
In a preferred embodiment U represents a phenyl, indolyl, or 1H-indazolyl group substituted by an R^3 group and optionally substituted by at least one independently selected R^4 group.

In a more preferred embodiment, where U represents a phenyl group the group R^3 is in the para- position relative to the bond from U to the linking NH group.

In a preferred embodiment R^3 represents benzyl, pyridylmethyl, phenoxy, benzyloxy, halo-, dihalo- and trihalobenzyloxy and benzenesulphonyl;

In a more preferred embodiment R^3 represents benzyl, pyridylmethyl, phenoxy, benzyloxy, halo-, dihalo- and trihalobenzyloxy;

In a further preferred embodiment R^3 represents a group of formula



, wherein Hal is Br or Cl, particularly Cl, more especially wherein the Hal substituent is in the position marked with a star in the ring as shown.

In a further more preferred embodiment R^3 represents benzyloxy, fluorobenzyloxy (especially 3-fluorobenzyloxy), benzyl, phenoxy and benzenesulphonyl.

In a most preferred embodiment R^3 represents benzyloxy, fluorobenzyloxy (especially 3-fluorobenzyloxy), benzyl and phenoxy.

In a further preferred embodiment the ring U is not substituted by an R^4 group; or is substituted by an R^4 group selected from the group comprising halogen, C_{1-4} alkoxy, cyano or trifluoromethyl.

In a more preferred embodiment the ring U not substituted by an R^4 group; or is substituted by an R^4 group selected from the group comprising halogen or trifluoromethyl.

In a most preferred embodiment the ring U is substituted by an R^4 group selected from halogen.

In an especially preferred embodiment the ring U is not substituted by an R^4 group; or is substituted by an R^4 group selected from the group comprising bromo, chloro or trifluoromethyl.

In another especially preferred embodiment the ring U is not substituted by an R^4 group; or is substituted by an R^4 group selected from the group comprising bromo or chloro.

In a further especially preferred embodiment the ring U is not substituted by an R^4 group; or is substituted by an R^4 group selected from the group comprising fluoro.

In a more especially preferred embodiment the group U together with the substituent(s) R^3 and R^4 represents benzyloxyphenyl, fluorobenzyloxyphenyl, benzenesulphonylphenyl, benzylindazolyl or phenoxyphenyl.

In a further more especially preferred embodiment the group U together with the substituent(s) R^3 and R^4 represents benzyloxyphenyl, 3-fluorobenzyloxyphenyl, benzenesulphonylphenyl or benzylindazolyl.

In a most especially preferred embodiment the group U together with the substituent(s) R^3 and R^4 represents benzyloxyphenyl, 3-fluorobenzyloxyphenyl, or benzylindazolyl.

In another more especially preferred embodiment the group U together with the substituent(s) R^3 and R^4 represents 4-(3-fluorobenzyloxy)-3-chlorophenyl, 4-(3-fluorobenzyloxy)-3-trifluoromethylphenyl, 4-(3-fluorobenzyloxy)-3-bromophenyl, 4-benzyloxy-3-chlorophenyl, 4-benzyloxy-3-trifluoromethylphenyl, 4-benzyloxy-3-bromophenyl.

In another most especially preferred embodiment the group U together with the substituent(s) R^3 and R^4 represents 4-benzyloxy-3-fluorophenyl or (3-fluorobenzyl)indazole.

In a more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present, or is halogen or trifluoromethyl.

In a most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is CR^2, wherein R^2 is hydrogen, methoxy or

fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy, fluorobenzyloxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is halogen or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy, fluorobenzyloxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is N; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally

substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is halogen or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is N, Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy, fluorobenzyloxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is N, Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is N; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is halogen or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is N, V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy, fluorobenzyloxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is N, V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is

phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; V is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is halogen or trifluoromethyl.

In a most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; V is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; V is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; Y is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is halogen or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 2, and m is 1 or 2; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethyl, phenoxy or benzenesulphonyl; and R^4 is not present or is bromo, chloro or trifluoromethyl.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1 or 2, and m is 1 or 2; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present, or is halogen.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present or is halogen.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is N; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present or is halogen.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; V is N, Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is N; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1 or 2, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present or is halogen.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is N; Y is N, V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl; R^3 is benzyloxy or fluorobenzyloxy; and R^4 is not present or is bromo, chloro or fluoro.

In a more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; V is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy

or halogen; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present or is halogen.

In a most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; V is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; Y is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethyl or phenoxy; and R^4 is not present or is bromo, chloro or fluoro.

In a further more preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; Y is CR^2, wherein R^2 is hydrogen, C_{1-4} alkoxy or halogen; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted phenyl, furan or thiazole, or pyrrole optionally substituted by methyl, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethoxy, pyridylmethyl or phenoxy; and R^4 is not present or is halogen.

In a further most preferred embodiment there is provided a compound of formula (I) or a salt or solvate thereof wherein X is CH; Y is CR^2, wherein R^2 is hydrogen, methoxy or fluoro; V is CR^1 wherein R^1 is as defined above in which Ar is unsubstituted furan or thiazole, p is 1, and m is 0; U is phenyl or indazole; R^3 is benzyl, fluorobenzyl, difluorobenzyl, benzyloxy, fluorobenzyloxy, difluorobenzyloxy, pyridylmethyl or phenoxy; and R^4 is not present or is bromo, chloro or fluoro.

Preferred compounds of the present invention include:
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazole-4-yl)-quinazolin-4yl)-amine dihydrochloride;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-3-fluorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyl)oxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyl)oxy)-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;
(3-Fluorobenzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-quinzolin-4-yl)-amine dihydrochloride;
and salts or solvates thereof, particularly pharmaceutically acceptable salts or solvates thereof.

Other preferred compounds of the present invention include:
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin -4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazole-4-yl)-pyrido[3,4-d]pyrimidin-4yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazole-4-yl)-pyrido[3,4-d]pyrimidin-4yl)-amine dihydrochloride;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride;
(4-Benzyloxy-3-fluorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-fluorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-Benzyloxy-3-fluorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-(3-Fluorobenzyl)oxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyl)oxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-(3-Fluorobenzyl)oxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-(3-Fluorobenzyl)oxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyl)oxy)-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-(3-Fluorobenzyl)oxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin-4-yl)-amine;
(3-Fluorobenzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)-amine;
(3-Fluorobenzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)-amine;
(3-Fluorobenzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) pyrido[3,4-d]pyrimidin -4-yl)amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin -4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin -4-yl)-amine dihydrochloride;
and salts or solvates thereof, particularly pharmaceutically acceptable salts or solvates thereof.

Other preferred compounds of the present invention include the following (in groups denoted hereafter as Lists 1 to 102

List 1
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine

List 2
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 3

(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 4

(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 5

(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 6
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 7
(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 8
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 9
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;

List 10
(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 11

(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 12

(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 13

(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 14
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 15
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;

List 16

(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 17

(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 18

(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 19
(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 20
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 21

(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 22

(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 23

(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 24
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 25
(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 26

(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 27

(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 28

(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 29
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 30
(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 31
(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 32
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 33
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 34
(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 35
(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 36

(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

List 37

(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

List 38

(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

List 39
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;

List 40
(4-Benzenesulphonyl-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 41
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 42
(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

List 43
(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

List 44

(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

List 45

(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;

List 46

(4-Benzenesulphonyl-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 47

(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 48

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 49
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 50
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 51

(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 52

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 53
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 54

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 55
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 56
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 57

(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 58
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 59

(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 60

(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 61
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 62
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 63
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 64

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 65

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 66
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;

(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 67
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(1-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 68

(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 69

(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 70
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 71
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 72
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)- quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)- quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 73
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 74
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 75

(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 76
(4-Benzenesulphonyl-phenyl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)- quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)- quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 77
(4-Benzenesulphonyl-phenyl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 78
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 79
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(4-Fluorobenzyloxy)-phenyl)-(7-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 80
(1-(2,6-Difluorobenzyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

(4-(3,4-Difluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2,3-Difluorobenzyl)-1H-indazol-5-yl)-(6-(5-(1-oxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2,6-Difluorobenzyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-(3,4-Difluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(1-(2,3-Difluorobenzyl)-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;

List 81
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 82
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 83

(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 84
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyrimidin-4-yl)-amine;

List 85
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 86
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-quinolin-4-yl)-amine;

List 87
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[3,4-d]pyridin-4-yl)-amine;

List 88
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-5-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;
(4-Phenoxy-phenyl)-(7-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-2-yl)-pyrido[4,3-d]pyridin-4-yl)-amine;

List 89
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy—3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine

(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 90
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)- 3-trifluoromethylphenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 91

(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

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(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-3-trifluromethylphenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 93

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 94
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 95
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-5-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 96
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylethyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-5-yl)-quinazolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(4-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-1.λ.6-thiomorpholin-4-ylpropyl)-thiazol-2-yl)-quinazolin-4-yl)-amine;

List 97
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

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(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 99

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)pyrido-[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;

List 100
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)- quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1-oxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine;

List 101
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzenesulphonyl-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Phenoxy-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-chlorophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)- quinazolin-4-yl)-amine;
(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-trifluoromethylphenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-Benzyloxy-3-bromophenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromophenyl)-(6-(2-(1-oxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(4-(3-Fluorobenzyloxy)-3-bromo-phenyl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;

List 102
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylethyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,1-dioxo-thiazolidin-3-ylpropyl)-furan-2-yl)-quinazolin-4-yl)-amine;

(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1-oxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
(1-Benzyl-1H-indazol-5-yl)-(6-(2-(1,1-dioxo-thiazolidin-3-ylpropyl)-thiazol-4-yl)-quinazolin-4-yl)-amine;
and salts or solvates thereof, particularly pharmaceutically acceptable salts or solvates thereof.

Certain compounds of formula (I) may exist in stereoisomeric forms (e.g. they may contain one or more asymmetric carbon atoms or may exhibit *cis-trans* isomerism). The individual stereoisomers (enantiomers and diastereoisomers) and mixtures of these are included within the scope of the present invention. Likewise, it is understood that compounds of formula (I) may exist in tautomeric forms other than that shown in the formula and these are also included within the scope of the present invention.

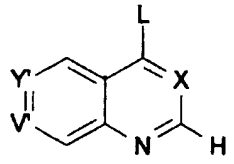
The compounds of the present invention may have the ability to crystallize in more than one form, a characteristic known as polymorphism, and all such polymorphic forms ("polymorphs") are encompassed within the scope of the invention. Polymorphism generally can occur as a response to changes in temperature or pressure or both, and can also result from variations in the crystallization process. Polymorphs can be distinguished by various physical characteristics, and typically the x-ray diffraction patterns, solubility behavior, and melting point of the compound are used to distinguish polymorphs.

The present invention also extends to physiologically acceptable derivatives of compounds of formula (I) as defined above. The term "physiologically acceptable derivative" as used herein refers to any physiologically acceptable derivative of a compound of the present invention, for example, an ester, which upon administration to a mammal, such as a human, is capable of providing (directly or indirectly) such a compound or an active metabolite thereof. Such derivatives are clear to those skilled in the art, without undue experimentation, and with reference to the teaching of Burger's Medicinal Chemistry And Drug Discovery, 5th Edition, Vol 1: Principles And Practice, which is incorporated herein by reference.

Salts of the compounds of the present invention may comprise acid addition salts derived from a nitrogen in the compound of formula (I). The therapeutic activity resides in the moiety derived from the compound of the invention as defined herein and the identity of the other component is of less importance although for therapeutic and prophylactic purposes it is, preferably, pharmaceutically acceptable to the patient. Examples of pharmaceutically acceptable acid addition salts include those derived from mineral acids, such as hydrochloric, hydrobromic, phosphoric, metaphosphoric, nitric and sulphuric acids, and organic acids, such as tartaric, acetic, trifluoroacetic, citric, malic, lactic, fumaric, benzoic, glycolic, gluconic, succinic and methanesulphonic and arylsulphonic, for example p-toluenesulphonic, acids.

According to a further aspect of the present invention there is provided a process for the preparation of a compound of formula (I) as defined above which comprises the steps:

(a) the reaction of a compound of formula (II)



(II)

wherein X is as defined above;

Y' is CL' and V' is N;

or Y' is N and V' is CL';

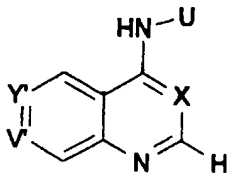
or Y' is CL' and V' is CR^2;

or Y' is CR^2 and V' is CL';

wherein R^2 is as defined above, and L and L' are suitable leaving groups, with a compound of formula (III)

$$UNH_2 \quad \text{(III)}$$

wherein U is as defined above, to prepare a compound of formula (IV)

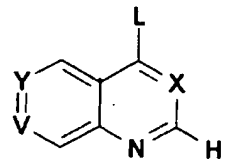


(IV)

and subsequently (b) reaction with appropriate reagent(s) to substitute the group R^1 by replacement of the leaving group L'; and, if desired, (c) subsequently converting the compound of formula (I) thereby obtained into another compound of formula (I) by means of appropriate reagents.

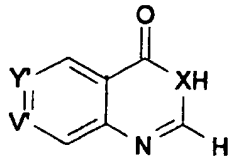
Alternatively, the compound of formula (II) as defined above is reacted with the appropriate reagents to substitute the group R^1 by replacement of the leaving group L' and then the product thereby obtained (of formula (V) below) is reacted with the compound of formula (III) as defined above, followed, if desired, by conversion of the compound of formula (I) thereby obtained into another compound of formula (I).

In a variant of this alternative the compound of formula (V)



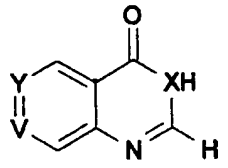
(V)

wherein X, Y, V, U and L are as defined above, may be prepared by the reaction of a compound of formula (VI)



(VI)

wherein V' and Y' are as defined above, with appropriate reagents to substitute the group R^1 for the leaving group L' to prepare a compound of formula (VII)



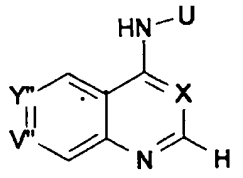
(VII)

and subsequent reaction to incorporate the leaving group L. For example, a chloro leaving group can be incorporated by reaction of a corresponding 3,4-dihydropyrimidone with carbon tetrachloride/triphenylphosphine in an appropriate solvent.

The group R^1 may, therefore, be substituted onto the basic ring system by replacement of a suitable leaving group. This may, for example, be carried out by reaction of the corresponding aryl or heteroaryl stannane derivative with the corresponding compound of formula (IV) carrying the leaving group L' in the appropriate position on the ring.

According to a further aspect of the present invention there is provided a process for the preparation of a compound of formula (I) as defined above which comprises the steps:

(a) reacting a compound of formula (IV) as defined above with appropriate reagent(s) to prepare a compound of formula (VIII)



(VIII)

wherein X and U are as defined above;

Y" is CT and V" is N;

or Y" is N and V" is CT;

or Y" is CT and V" is CR^2;

or Y" is CR^2 and V" is CT; wherein R^2 is as defined above and T is an appropriately functionalised group;

and (b) subsequently converting the group T into the group R^1 by means of appropriate reagent(s); and, if desired, (c) subsequently converting the compound of

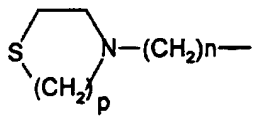
formula (I) thereby obtained into another compound of formula (I) by means of appropriate reagents.

Such processes are particularly suitable for the preparation of compounds of formula (I) wherein R^1 is as defined above. In such cases preferably the group T would represent a group Ar as defined above carrying a formyl group (CHO).

Where T represents a group Ar carrying a formyl group the compound (of formula (VIIIa)) may be suitably prepared from the corresponding dioxolanyl substituted compound (of formula (VIIIb)), for example by acid hydrolysis. The dioxolanyl substituted compound may be prepared by reaction of a compound of formula (IV) with an appropriate reagent to substitute the relevant leaving group with the substituent carrying the dioxolanyl ring. This reagent could, for example, be an appropriate heteroaryl stannane derivative.

Therefore a suitable process may comprise reaction of a compound of formula (VIIIa) in which T is a group Ar carrying a formyl substituent (i.e. a -CHO group) with a compound of formula QH. The reaction preferably involves a reductive amination by means of an appropriate reducing agent, for example sodium triacetoxyborohydride.

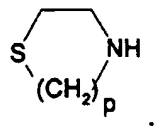
Alternatively, another suitable process may comprise oxidation of a compound of formula (VIIIc) in which T is a group Ar carrying a substituent of formula



Suitable methods for the oxidation to the desired compound of formula (I) will be well known to the person skilled in the art but include, for example, reaction with an organic peroxide, such as peracetic acid or metachlorobenzoic acid, or reaction with an inorganic oxidising agent, such as OXONE®. In certain cases an amount of N-oxide may also form and treatment with a suitable agent to reduce this back to the desired product may be necessary, for example with sodium metabisulphite. The preparation of the sulphoxide compound of formula (I) from the corresponding thio compound requires careful conditions to control the oxidation state of the product; in

general one uses only one equivalent of the relevant oxidising agent and the temperature of the reaction is kept low.

The compound of formula (VIIIc) defined above may be prepared by an analogous reaction to that described above, namely reaction of a compound of formula (VIIIa) in which T is a group Ar carrying a formyl substituent (i.e. a -CHO group) with a compound of formula



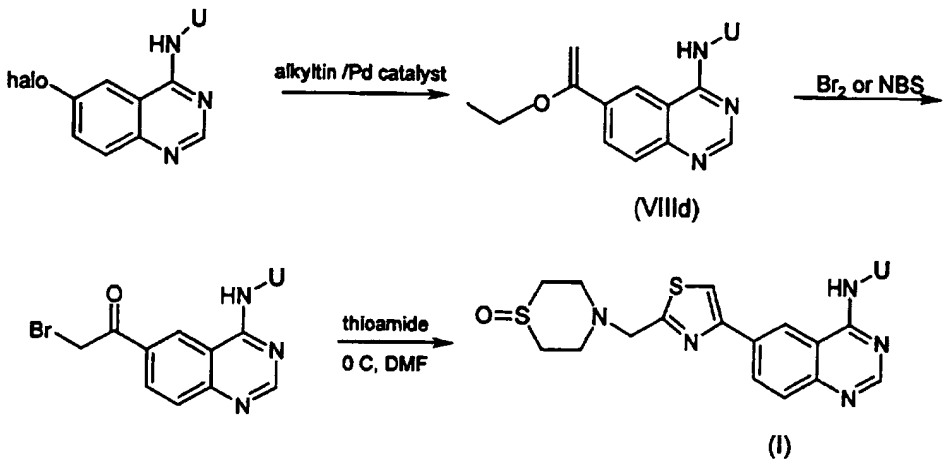
A sulphoxide compound of formula (I) may, of course, be further oxidised to a sulphone compound of formula (I) by analogous methods; again in certain cases an amount of N-oxide may also form and treatment with a suitable agent to reduce this back to the desired product may be necessary, for example with sodium metabisulphite.

Alternatively, an analogous scheme to those described above could be used wherein the substitution of the group R^1 onto the basic ring system occurs prior to the coupling reaction with the compound of formula (III).

According to a further alternative process the group T is converted into the group R^1 by a *de novo* synthesis of a substituted heterocyclic system using appropriate agents. Such a process would involve standard synthetic methodology known to the person skilled in the art for building up the heterocyclic ring system.

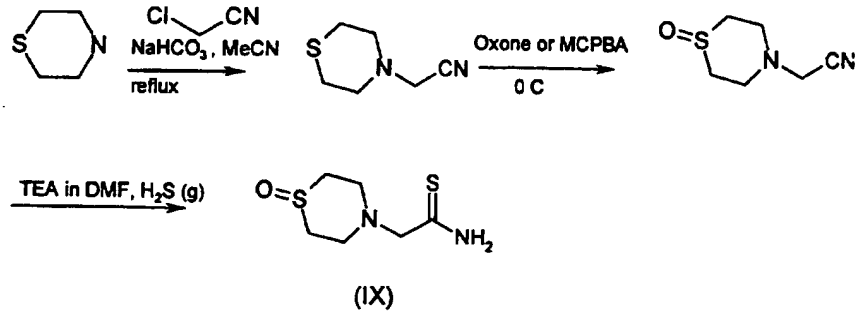
For example, the reaction of a compound of formula (VIIId) wherein T represents a haloketone group, when coupled with an appropriate N-protected thioamide, would result in the formation of an N-protected amino-substituted thiazole system.

Scheme 1 outlines, for example, the synthesis of derivatives carrying a substituted thiazole ring as an R^1 substituent:



Scheme 1

An appropriately substituted thioamide coupling reagent (IX), suitable, for example, for preparation of a thiazole ring system, may be prepared according to the synthesis outlined in Scheme 2.



Scheme 2

Other substituted thioamides may be prepared using analogous processes to that shown above. For example, thiazolidine could be used in place of thiomorpholine in the above scheme to afford the analogous 1-oxo-thiazolidin-3-yl-methyl thioamide. Alternatively, the sulfur could be further oxidized in the above scheme to afford the corresponding 1,1-dioxo-thiomorpholin-4yl-methylthioamide. Similarly, the alkylating agent, chloroacetonitrile can be substituted with 4-bromobutyronitrile in the above scheme to afford the corresponding 1-oxo-thiomorpholin-4yl-propyl thioamide.

Alternatively, an analogous scheme to those described above could be used wherein the substitution of the group R^1 onto the basic ring system occurs prior to the coupling reaction with the compound of formula (III).

In general, the group R^2 will be present as a substituent in the basic ring system prior to the introduction of the group R^1 or the group NHU. Where R^2 is other than hydrogen it may in certain circumstances be necessary to protect the group prior to performing the reaction steps to introduce the R^1 and NHU substituents. Suitable protecting groups, methods for their introduction and methods for their removal would be well known to the person skilled in the art. For a description of protecting groups and their use see T.W. Greene and P.G.M. Wuts, "Protective Groups in Organic Synthesis", 2nd edn., John Wiley & Sons, New York, 1991.. Particular mention should be made of the situation where R^2 is hydroxy; suitable protecting groups to ensure non-interference with the subsequent reaction steps include the 2-methoxyethoxymethyl ether (MEM) group or a bulky silyl protecting group such as tert-butyldiphenylsilyl (TBDPS).

Suitable leaving groups for L and L' will be well known to those skilled in the art and include, for example, halo such as fluoro, chloro, bromo and iodo; sulphonyloxy groups such as methanesulphonyloxy and toluene-p-sulphonyloxy; alkoxy groups; and triflate.

The coupling reaction referred to above with the compound of formula (III) is conveniently carried out in the presence of a suitable inert solvent, for example a C_{1-4} alkanol, such as isopropanol, a halogenated hydrocarbon, an ether, an aromatic hydrocarbon or a dipolar aprotic solvent such as acetone, acetonitrile or DMSO at a non-extreme temperature, for example from 0 to 150°C, suitably 10 to 120°C, preferably 50 to 100°C.

Optionally, the reaction is carried out in the presence of a base. Examples of suitable bases include an organic amine such as triethylamine, or an alkaline earth metal carbonate, hydride or hydroxide, such as sodium or potassium carbonate, hydride or hydroxide.

The compound of formula (I) may be obtained from this process in the form of a salt with the acid HL, wherein L is as hereinbefore defined, or as the free base by treating the salt with a base as hereinbefore defined.

The compounds of formulae (II) and (III) as defined above, the reagents to substitute the group R^1, and the reagent(s) to convert the group T into the group R^1 are either readily available or can be readily synthesised by those skilled in the art using conventional methods of organic synthesis.

As indicated above, the compound of formula (I) prepared may be converted to another compound of formula (I) by chemical transformation of the appropriate substituent or substituents using appropriate chemical methods (see for example, J.March "Advanced Organic Chemistry", Edition III, Wiley Interscience, 1985).

For example, a compound containing an alkylthio group may be oxidised to the corresponding sulphinyl or sulphonyl compound by use of an organic peroxide (e.g. benzoyl peroxide) or suitable inorganic oxidant (eg OXONE ®).

A compound containing a nitro substituent may be reduced to the corresponding amino-compound, e.g. by use of hydrogen and an appropriate catalyst (if there are no other susceptible groups), by use of Raney Nickel and hydrazine hydrate or by use of iron/acetic acid.

Amino substituents may be acylated by use of an acid chloride or an anhydride under appropriate conditions. Equally an amide group may be cleaved to the amino compound by treatment with, for example, dilute aqueous base.

An amino substituent may also be converted to a dimethylamino substituent by reaction with formic acid and sodium cyanoborohydride. Similarly, reaction of a primary or secondary amino group with another suitable aldehyde under reducing conditions will lead to the corresponding substituted amine.

All of the above-mentioned chemical transformations may also be used to convert any relevant intermediate compound to another intermediate compound prior to the final reaction to prepare a compound of formula (I); this would thus include their use

to convert one compound of formula (III) to a further compound of formula (III) prior to any subsequent reaction.

Various intermediate compounds used in the above-mentioned processes, including but not limited to certain of the compounds of formulae (II), (III), (IV), (V), (VI), (VII) and (VIII) as illustrated above, are novel and thus represent a further aspect of the present invention.

In particular, a further aspect of the present invention is intermediate compounds of formulae (VIIIa), (VIIIb) defined above, with the exception of the following compounds:
(1-Benzyl-1H-indazol-5-yl)-(6-(5-[1,3-dioxolan-2-yl]-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine;
5-(4-(1-Benzyl-1H-indazol-5-ylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde;
5-(4-(4-Benzyloxy-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde;
(4-Benzyloxy-phenyl)-(6-(5-[1,3-dioxolan-2-yl]-furan-2-yl)-quinazolin-4-yl)-amine;
5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde;
(1-Benzyl-1H-indazol-5-yl)-(6-(5-[1,3-dioxolan-2-yl]-furan-2-yl)-quinazolin-4-yl)-amine;
5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-6-yl)-furan-2-carbaldehyde;
5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-6-yl)-1-methyl-pyrrole-2-carbaldehyde;
(1-Benzyl-1H-indazol-5-yl)-(7-(5-[1,3-dioxolan-2-yl]-furan-2-yl)-quinazolin-4-yl)-amine;
5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-7-yl)-furan-2-carbaldehyde.

In particular, a yet further aspect of the present invention is intermediate compounds of formula (VIIIc) as defined above.

In particular, a yet further aspect of the present invention is intermediate compounds of formula (VIIId) as defined above.

The compounds of formula (I) and salts thereof have anticancer activity as demonstrated hereinafter by their inhibition of the protein tyrosine kinase c-erbB-2,

c-erbB-4 and/or EGF-R enzymes and their effect on selected cell lines whose growth is dependent on c-erbB-2 or EGF-r tyrosine kinase activity. Certain compounds of formula (I) also inhibit lck and/or zap70 protein tyrosine kinase enzymes and are expected to have activity in disease conditions in which T cells are hyperactive.

The present invention thus also provides compounds of formula (I) and pharmaceutically acceptable salts or solvates thereof for use in medical therapy, and particularly in the treatment of disorders mediated by aberrant protein tyrosine kinase activity such as human malignancies and the other disorders mentioned above. The compounds of the present invention are especially useful for the treatment of disorders caused by aberrant c-erbB-2 and/or EGF-r and lck and/or zap70 activity such as breast, ovarian, gastric, pancreatic, non-small cell lung, bladder, head and neck cancers, psoriasis and rheumatoid arthritis.

A further aspect of the invention provides a method of treatment of a human or animal subject suffering from a disorder mediated by aberrant protein tyrosine kinase activity, including susceptible malignancies, which comprises administering to said subject an effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof.

A further aspect of the present invention provides the use of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, in therapy.

A further aspect of the present invention provides the use of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, in the preparation of a medicament for the treatment of cancer and malignant tumours.

A further aspect of the present invention provides the use of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, in the preparation of a medicament for the treatment of psoriasis.

A further aspect of the present invention provides the use of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, in the preparation of a medicament for the treatment of rheumatoid arthritis.

A further aspect of the present invention provides the use of a compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, in the preparation of a medicament for the treatment of bronchitis.

Whilst it is possible for the compounds, salts or solvates of the present invention to be administered as the new chemical, it is preferred to present them in the form of a pharmaceutical formulation.

According to a further feature of the present invention there is provided a pharmaceutical formulation comprising at least one compound of formula (I), or a pharmaceutically acceptable salt or solvate thereof, together with one or more pharmaceutically acceptable carriers, diluents or excipients.

Pharmaceutical formulations may be presented in unit dose forms containing a predetermined amount of active ingredient per unit dose. Such a unit may contain for example 0.5mg to 1g, preferably 70mg to 700mg, more preferably 5mg to 100mg of a compound of the formula (I) depending on the condition being treated, the route of administration and the age, weight and condition of the patient.

Pharmaceutical formulations may be adapted for administration by any appropriate route, for example by the oral (including buccal or sublingual), rectal, nasal, topical (including buccal, sublingual or transdermal), vaginal or parenteral (including subcutaneous, intramuscular, intravenous or intradermal) route. Such formulations may be prepared by any method known in the art of pharmacy, for example by bringing into association the active ingredient with the carrier(s) or excipient(s).

Pharmaceutical formulations adapted for oral administration may be presented as discrete units such as capsules or tablets; powders or granules; solutions or suspensions in aqueous or non-aqueous liquids; edible foams or whips; or oil-in-water liquid emulsions or water-in-oil liquid emulsions.

Pharmaceutical formulations adapted for transdermal administration may be presented as discrete patches intended to remain in intimate contact with the epidermis of the recipient for a prolonged period of time. For example, the active

ingredient may be delivered from the patch by iontophoresis as generally described in Pharmaceutical Research, 3(6), 318 (1986).

Pharmaceutical formulations adapted for topical administration may be formulated as ointments, creams, suspensions, lotions, powders, solutions, pastes, gels, sprays, aerosols or oils.

For treatments of the eye or other external tissues, for example mouth and skin, the formulations are preferably applied as a topical ointment or cream. When formulated in an ointment, the active ingredient may be employed with either a paraffinic or a water-miscible ointment base. Alternatively, the active ingredient may be formulated in a cream with an oil-in-water cream base or a water-in-oil base.

Pharmaceutical formulations adapted for topical administrations to the eye include eye drops wherein the active ingredient is dissolved or suspended in a suitable carrier, especially an aqueous solvent.

Pharmaceutical formulations adapted for topical administration in the mouth include lozenges, pastilles and mouth washes.

Pharmaceutical formulations adapted for rectal administration may be presented as suppositories or as enemas.

Pharmaceutical formulations adapted for nasal administration wherein the carrier is a solid include a coarse powder having a particle size for example in the range 20 to 500 microns which is administered in the manner in which snuff is taken, i.e. by rapid inhalation through the nasal passage from a container of the powder held close up to the nose. Suitable formulations wherein the carrier is a liquid, for administration as a nasal spray or as nasal drops, include aqueous or oil solutions of the active ingredient.

Pharmaceutical formulations adapted for administration by inhalation include fine particle dusts or mists which may be generated by means of various types of metered dose pressurised aerosols, nebulizers or insufflators.

Pharmaceutical formulations adapted for vaginal administration may be presented as pessaries, tampons, creams, gels, pastes, foams or spray formulations.

Pharmaceutical formulations adapted for parenteral administration include aqueous and non-aqueous sterile injection solutions which may contain anti-oxidants, buffers, bacteriostats and solutes which render the formulation isotonic with the blood of the intended recipient; and aqueous and non-aqueous sterile suspensions which may include suspending agents and thickening agents. The formulations may be presented in unit-dose or multi-dose containers, for example sealed ampoules and vials, and may be stored in a freeze-dried (lyophilized) condition requiring only the addition of the sterile liquid carrier, for example water for injections, immediately prior to use. Extemporaneous injection solutions and suspensions may be prepared from sterile powders, granules and tablets.

Preferred unit dosage formulations are those containing a daily dose or sub-dose, as herein above recited, or an appropriate fraction thereof, of an active ingredient.

It should be understood that in addition to the ingredients particularly mentioned above, the formulations may include other agents conventional in the art having regard to the type of formulation in question, for example those suitable for oral administration may include flavouring agents.

The animal requiring treatment with a compound, salt or solvate of the present invention is usually a mammal, such as a human being.

A therapeutically effective amount of a compound, salt or solvate of the present invention will depend upon a number of factors including, for example, the age and weight of the animal, the precise condition requiring treatment and its severity, the nature of the formulation, and the route of administration, and will ultimately be at the discretion of the attendant physician or veterinarian However, an effective amount of a compound of the present invention for the treatment of neoplastic growth, for example colon or breast carcinoma, will generally be in the range of 0.1 to 100 mg/kg body weight of recipient (mammal) per day and more usually in the range of 1 to 10 mg/kg body weight per day. Thus, for a 70kg adult mammal, the actual amount per day would usually be from 70 to 700 mg and this amount may be

given in a single dose per day or more usually in a number (such as two, three, four, five or six) of sub-doses per day such that the total daily dose is the same. An effective amount of a salt or solvate of the present invention may be determined as a proportion of the effective amount of the compound per se. It is envisaged that similar dosages would be appropriate for treatment of the other conditions referred to above.

The compounds of the present invention and their salts and solvates may be employed alone or in combination with other therapeutic agents for the treatment of the above-mentioned conditions. In particular, in anti-cancer therapy, combination with other chemotherapeutic, hormonal or antibody agents is envisaged. Combination therapies according to the present invention thus comprise the administration of at least one compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof and at least one other pharmaceutically active agent. The compound(s) of formula (I) and the other pharmaceutically active agent(s) may be administered together or separately and, when administered separately this may occur simultaneously or sequentially in any order. The amounts of the compound(s) of formula (I) and the other pharmaceutically active agent(s) and the relative timings of administration will be selected in order to achieve the desired combined therapeutic effect.

Certain embodiments of the present invention will now be illustrated by way of example only. The physical data given for the compounds exemplified is consistent with the assigned structure of those compounds.

^{1}H NMR spectra were obtained at 500MHz on a Bruker AMX500 spectrophotometer, on a Bruker spectrophotometer at 300Mz, or on a Bruker AC250 or Bruker AM250 spectrophotometer at 250MHz. J values are given in Hz. Mass spectra were obtained on one of the following machines: VG Micromass Platform (electrospray positive or negative), HP5989A Engine (thermospray positive) or Finnigan-MAT LCQ (ion trap) mass spectrometer. Analytical thin layer chromatography (tlc) was used to verify the purity of some intermediates which could not be isolated or which were too unstable for full characterisation, and to follow the progess of reactions. Unless otherwise stated, this was done using silica gel (Merck Silica Gel 60 F254). Unless otherwise stated, column chromatography for the purification of some compounds

used Merck Silica gel 60 (Art. 1.09385, 230-400 mesh), and the stated solvent system under pressure.

Petrol refers to petroleum ether, either the fraction boiling at 40-60°C, or at 60-80°C.
Ether refers to diethylether.
DMSO refers to dimethylsulphoxide.
THF refers to tetrahydrofuran.
HPLC refers to high pressure liquid chromatography.
TEA refers to triethylamine.
DMF refers to dimethylformamide.

Useful preparative techniques are described in WO96/09294, WO97/03069, WO97/13771, WO95/19774, WO96/40142 and WO97/30034; also described in these publications are appropriate intermediate compounds other than those detailed below.

Preparation processes specified in the prior art or in the experimental details below for compounds with a particular basic ring system (1) to (6) above may be suitably adapted for others of these basic ring systems.

General Procedures

(A) Reaction of an amine with a bicyclic species containing a 4-chloropyrimidine or 4-chloropyridine ring

The optionally substituted bicyclic species and the specified amine were mixed in an appropriate solvent (typically acetonitrile unless otherwise specified, although ethanol, 2-propanol or DMSO may also be used), and heated to reflux. When the reaction was complete (as judged by tlc), the reaction mixture was allowed to cool. The resulting suspension was diluted, *e.g.* with acetone, and the solid collected by filtration, washing *e.g.* with excess acetone, and dried at 60°C *in vacuo*, giving the product as the hydrochloride salt. If the free base was required (*e.g.* for further reaction), this was obtained by treatment with a base *e.g.* triethylamine; purification by chromatography was then performed if required.

(B) Reaction of a product from Procedure (A) with a heteroaryl tin reagent

A stirred mixture of the product from Procedure (A), (containing a suitable leaving group such as chloro, bromo, iodo or triflate), a heteroaryl stannane and a suitable palladium catalyst, such as bis(triphenylphosphine)palladium (II) chloride or 1,4-bis(diphenylphosphino)butane palladium (II) chloride (prepared as described in C.E. Housecroft et. al., Inorg. Chem., (1991), 30(1), 125-130), together with other appropriate additives, were heated at reflux in dry dioxane or another suitable solvent under nitrogen until the reaction was complete. The resulting mixture was generally purified by chromatography on silica.

(C) Removal of a 1,3-dioxolan-2-yl protecting group to liberate an aldehyde

The compound containing the 1,3-dioxolan-2-yl group was suspended in an appropriate solvent, e.g.THF and treated with hydrochloric acid, either as an aqueous solution (e.g. 2N) or as a solution in dioxane (e.g. 4 molar) and stirred at ambient temperature until the reaction was judged complete (e.g. by tlc or LC/MS analysis). Generally the mixture was diluted with water, and the resulting precipitate was collected by filtration, washed with water and dried to give the aldehyde.

(D) Reaction of an aldehyde with an amine by reductive amination

An aldehyde (such as the product of General Procedure C) and the required primary or secondary amine were stirred together in a suitable solvent (such as dichloromethane) containing glacial acetic acid (4A molecular sieves may also be present) for ca. 1h. A suitable reducing agent, such as sodium (triacetoxy) borohydride was then added and stirring continued under nitrogen until the reaction was complete (as judged by hplc or tlc). The resulting mixture was washed with an aqueous basic solution (e.g. sodium or potassium carbonate) and extracted with a suitable solvent, e.g. dichloromethane. The dried organic phase was evaporated and the residue purified either by column chromatography or by Bond Elut™ cartridge. If desired, the isolated material was then converted into the hydrochloride salt e.g. by treatment with ethereal hydrogen chloride.

(E) Alternative reductive amination procedure

A mixture of an aldehyde (such as the product of General Procedure C) and thiomorpholine oxide in dichloroethane was heated to e.g. 60° C for 8 h and then cooled to room temperature. A reducing reagent, such as sodium cyano borohydride or sodium triacetoxyborohydride, was added to the reaction mixture. After

approximately 0.5 h, the reaction was quenched by the addition of aqueous saturated $NaHCO_3$ and methylene chloride. The aqueous layer was extracted with a suitable solvent such as methylene chloride. The combined organics were dried over anhydrous K_2CO_3 and filtered through Celite™. Concentration and purification by column chromatography provided the desired product.

Synthesis of Intermediates

N-5-[*N*-*tert*-Butoxycarbonyl)amino]-2-chloropyridine

A stirred solution of 6-chloronicotinic acid (47.3g), diphenylphosphoryl azide (89.6g) and triethylamine (46ml) in t-butanol (240ml) were heated under reflux under nitrogen for 2.5 hours. The solution was cooled and concentrated *in vacuo*. The syrupy residue was poured into 3 litres of a rapidly stirred solution of 0.33N aqueous sodium carbonate. The precipitate was stirred for one hour and filtered. The solid was washed with water and dried *in vacuo* at 70°C to give the title compound (62g) as a pale brown solid; m.p. 144-146°C; δH [$^2H_6$]-DMSO 8.25(1H,d), 7.95 (1H, bd), 7.25 (1H, d), 6.65(1H, bs), 1.51 (9H,s); m/z $(M + 1)^+$ 229.

This material may subsequently be carried forward to the appropriately substituted pyridopyrimidine intermediate according to the procedures as described in WO95/19774, J. Med. Chem., 1996, 39, pp 1823-1835, and J. Chem. Soc., Perkin Trans. 1, 1996, pp 2221-2226. Specific compounds made by such procedures include 6-chloro-pyrido[3,4-d]pyrimidin-4-one and 4,6-dichloro-pyrido[3,4-d]pyrimidine.

4-Chloro-6-bromoquinazoline and 4-Chloro-6-iodoquinazoline were prepared as described in WO 96/09294.

1-Benzyl-5-nitro-1H-indole

Dry dimethylsulphoxide (20 ml) was added to potassium hydroxide (4.2 g, 0.074 mol) (crushed pellets) and the mixture was stirred under nitrogen for 5 mins. 5-Nitroindole (commercially available) (3.0 g, 0.019 mol) was then added and the red mixture stirred for 30 min at room temperature. The mixture was then cooled to -10 °C, benzyl bromide (4.4 ml, 0.037 mol) was slowly added and the mixture stirred and allowed to warm to room temperature over a period of 40 mins. Water (50 ml) was then added and the mixture was extracted with diethyl ether

(2 x 200 ml). The extracts were washed with water (4 x 50 ml), dried over sodium sulphate and evaporated to leave an oily solid. The excess benzyl bromide was removed by dissolving the whole in diethyl ether (50 ml), diluting this solution with 40-60 petrol (50 ml) and then gradually removing the diethyl ether *in vacuo* to leave a yellow solid suspended in the petrol. The solid was filtered, washed with copious amounts of 40-60 petrol and dried to give 1-benzyl-5-nitroindole (2.4 g, 51%) as a yellow solid, m.p. 102-104 °C; δH [$^2H_6$]-DMSO 8.53 (1H, s, 4-H), 8.00 (1H, d, J 9, 6-H), 7.78 (1H, s, 2-H), 7.68 (1H, d, J 9, 7-H), 7.36-7.20 (5H, m, 2'-H, 3'-H, 4'-H, 5'-H, 6'-H), 6.81 (1H, s, 3-H), 5.52 (2H, s, CH_2).

5-Amino-1-benzyl-1H-indole

A solution of 1-benzyl-5-nitroindole (0.51 g, 0.02 mol) in a mixture of ethyl acetate (25 ml) and methanol (25 ml) was carefully added to 10% palladium on charcoal (45 mg). The resulting suspension was stirred at room temperature under an atmosphere of hydrogen. When the reaction was complete (indicated by tlc or calculated uptake of hydrogen) the suspension was filtered through a pad of Hyflo™, and the filtrate evaporated to dryness to give 5-amino-1-benzylindole (0.40 g, 91%) as an off-white solid; m.p. 66-68 °C; δH [$^2H_6$]-DMSO 7.30-7.12 (6H, m, 2-H, 2"-H, 3"-H, 4"-H, 5"-H, 6"-H), 7.08 (1H, d, J 8, 7-H), 6.70 (1H, s, 4-H), 6.49 (1H, d, J 8, 6-H), 6.18 (1H, s, 3-H), 5.28 (2H, s, CH_2), 4.38 (2H, br s, NH_2).

2-Benzyl-5-nitro-1H-benzimidazole

A mixture of 4-nitro-*o*-phenylene diamine (1.54g) and phenylacetic acid (2.04g) in 5N aqueous HCl (16ml) were heated at 110 °C under nitrogen for 22 hours. The mixture was cooled to room temperature and the accumulated black solid collected by filtration. This crude residue was then adsorbed onto silica and chromatographed to give the title compound (0.84g) as a purple foam; δH $CDCl_3$ 9.70 (1H, bs), 8.15 (1H, d), 7.30 (7H, m), 4.30 (2H,s); m/z $(M + 1)^+$ 254.

5-Amino-2-benzyl-1H-benzimidazole

The title compound was prepared from 5-nitro-2-benzylbenzimidazole by an analogous reduction method to that described above for 5-amino-1-benzyl-1H-

indole; m/z (M + 1)$^+$ 224. Also note the published method (J. Het. Chem., 23, 1109-13, (1986)).

1-*N*-Benzyl-5-nitro-1H-indazole and 2-*N*-Benzyl-5-nitro-1H-indazole

A stirred mixture of 5-nitroindazole (50g), potassium carbonate (46.6g, 1.1 equiv.) and benzyl bromide (57.6g, 1.1 equiv) in *N,N*-dimethylformamide (500 ml) was heated at 75°C for a period of 4 hours. The reaction was then cooled and water (500ml) was gradually added to precipitate the product which was filtered off and washed with water (50ml) and dried in the air at ambient temperature. The weight of pale yellow solid thus obtained was 72.3g (93%), m.pt. 95-97°C; HPLC (Partisil 5, dichloromethane, 4ml/min, 250nm) gave an isomer ratio (1-*N*-benzyl : 2-*N*-benzyl) of 63:37 (RT-1*N* 3.4min, RT-2*N* 6.6min). To a filtered solution of the mixed regioisomers (100g) in acetone (470ml) at room temperature was added, gradually with stirring, water (156ml) and the mixture was stirred for one hour. The resultant yellow crystalline solid was filtered off and dried in the air at ambient temperature to give 36.4g (34%) of material; m.pt.124-126°C; HPLC showed an isomer ratio (1-*N*-benzyl : 2-*N*-benzyl) of 96:4; δH ($CDCl_3$) 5.58 (2H,s,CH_2), 7.12-7.15(2H) & 7.22-7.29(3H)-(phenyl), 7.33(1H,dt, J=1Hz & 9Hz, H-7), 8.15(1H,dd, J=2Hz & 9Hz,H-6), 8.19(1H,d,J=1Hz,H-3), 8.67 (1H,dd,J=1Hz & 2Hz, H-4).

Also note the published method in FR 5600, 8 January 1968.

5-Amino-1-*N*-benzyl-1H-indazole

1-Benzyl-5-nitroindazole (400g) was suspended in ethanol (5 litre) and hydrogenated in the presence of 5% platinum on carbon catalyst (20g) operating at 1 bar pressure and 50-60°C. When hydrogen uptake was complete the reactor contents were heated to 70°C, discharged and filtered while still hot and the filtrate concentrated to ~4 litre which caused some crystallisation. Water (4 litre) was then gradually added with stirring and the mixture was stirred at 5°C overnight. The resultant crystals were filtered off and air-dried at ambient temperature to give 305g (86%) of material, m.pt.150-152°C; HPLC (Supelcosil ABZ +, gradient 0.05% trifluoroacetic acid in water/0.05% trifluoroacetic acid in acetonitrile,1.5ml/min, 220nm) showed <1% of the corresponding 2-*N*-isomer (RT-1*N* 6.03min, RT-2*N* 5.29min); δH ($CDCl_3$) 3.3-3.8(2H,broad s,NH_2), 5.47

(2H,s,CH_2), 6.74(1H,dd,J=2Hz & 9Hz,H-6), 6.87(1H,dd,J=1Hz & 2Hz,H-4), 7.06-7.11(3H) & 7.17-7.25(3H)-(phenyl & H-7), 7.77(1H,d,J=1Hz,H-3).

Also note the published method in FR 5600, 8 January 1968.

1-Benzyl-3-methyl-5-nitro-1H-indazole

2-Fluoro-5-nitroacetophenone (H. Sato et al, Bioorganic and Medicinal Chemistry Letters, 5(3), 233-236, 1995) (0.24g) was treated with triethylamine (0.73ml)and benzyl hydrazine dihydrochloride (0.255g) in ethanol (20ml) at reflux under N_2 for 8 days. The mixture was cooled and the solid 1-benzyl-3-methyl-5-nitroindazole (0.16g) was collected by filtration; m/z $(M+1)^+$ 268.

1-Benzyl-3-methyl-1H-indazol-5-ylamine

1-Benzyl-3-methyl-5-nitroindazole (0.15g) in THF (15ml) was treated with platinum on carbon (0.05g, 5%) under an atmosphere of hydrogen at room temperature. When hydrogen uptake was complete, the mixture was filtered and concentrated *in vacuo* to give the title compound; m/z $(M+1)^+$ 268.

Further amino-indazole intermediates

The relevant nitro-substituted 1H-indazole was treated with a base such as potassium carbonate or sodium hydroxide in a suitable solvent, such as acetone or acetonitrile. The appropriate aryl halide or heteroaryl halide was added and the reaction mixture heated or stirred at room temperature overnight. Subsequent concentration *in vacuo* and chromatography on silica gave the desired 1-substituted nitro-1H-indazoles. Hydrogenation was carried out by analogy with the preparation of 5-amino-1-benzyl-1H-indole described above.

Amines prepared by such methods include:-

5-Amino-1-benzyl-1H-indazole; m/z $(M+1)^+$ 224

5-Amino-1-(2-fluorobenzyl)-1H-indazole; m/z $(M+1)^+$ 242

5-Amino-1-(3-fluorobenzyl)-1H-indazole; m/z $(M+1)^+$ 242

5-Amino-1-(4-fluorobenzyl)-1H-indazole; m/z $(M+1)^+$ 242

5-Amino-1-(2-pyridylmethyl)-1H-indazole; m/z $(M+1)^+$ 225

5-Amino-1-(3-pyridylmethyl)-1H-indazole; m/z $(M+1)^+$ 225

5-Amino-1-(4-pyridylmethyl)-1H-indazole; m/z $(M+1)^+$ 225

5-Amino-1-(2,3-difluorobenzyl)-1H-indazole; m/z $(M+1)^+$ 260
5-Amino-1-(3,5-difluorobenzyl)-1H-indazole; m/z $(M+1)^+$ 260.

1-Benzenesulphonylindol-5-yl-amine was prepared according to the published method (J. Org. Chem., 55, 1379-90, (1990)).

3-Benzenesulphonylindol-6-yl-amine
3-Benzenesulphonyl-6-nitroindole (K. Wojciechowski and M Makosza, Tet. Lett., 25 (42), p4793, 1984) was hydrogenated by analogy with the procedures above to give the title compound; δH $[^2H_6]$DMSO 11.64 (1H,s), 7.94 (2H,m), 7.81 (1H,s), 7.57 (3H,m), 7.49(1H,d), 6.60(1H,s), 6.55 (1H,dd), 5.40 (2H,s).

4-Benzyloxyaniline is commercially available as the hydrochloride salt; this is treated with aqueous sodium carbonate solution, and the mixture extracted with ethyl acetate; the organic solution is dried ($MgSO_4$) and concentrated to give the free base as a brown solid, used without further purification.

Other substituted anilines were in general prepared by analogous methods to those outlined in WO 96/09294 and/or as follows:

Step 1: Preparation of the precursor nitro-compounds
4-Nitrophenol (or an appropriate substituted analogue, such as 3-chloro-4-nitrophenol) was treated with a base such as potassium carbonate or sodium hydroxide in an appropriate solvent, such as acetone or acetonitrile. The appropriate aryl or heteroaryl halide was added and the reaction mixture heated or stirred at room temperature overnight.

Purification A: Most of the acetonitrile was removed *in vacuo*, and the residue was partitioned between water and dichloromethane. The aqueous layer was extracted with further dichloromethane (x 2), and the combined dichloromethane layers were concentrated *in vacuo*.

Purification B: removal of insoluble material by filtration, followed by concentration of the reaction mixture *in vacuo*, and chromatography on silica.

Step 2: Reduction to the corresponding aniline

The precursor nitro compound was reduced by catalytic hydrogenation at atmospheric pressure using 5%Pt/carbon, in a suitable solvent (eg ethanol, THF, or mixtures thereof to promote solubility). When reduction was complete, the mixture was filtered through Harborlite™, washing with excess solvent, and the resulting solution concentrated *in vacuo* to give the desired aniline. In some cases, the anilines were acidified with HCl (e.g. in a solution in dioxane) to give the corresponding hydrochloride salt.

Anilines prepared by such methods include:

4-(2-Fluorobenzyloxy)aniline; m/z $(M+1)^+$ 218

4-(3-Fluorobenzyloxy)aniline; m/z $(M+1)^+$ 218

4-(4-Fluorobenzyloxy)aniline; m/z $(M+1)^+$ 218

3-Chloro-4-(2-fluorobenzyloxy)aniline; m/z $(M+1)^+$ 252

3-Chloro-4-(3-fluorobenzyloxy)aniline; m/z $(M+1)^+$ 252

3-Chloro-4-(4-fluorobenzyloxy)aniline; m/z $(M+1)^+$ 252

4-(Pyridyl-2-methoxy)aniline; m/z $(M+1)^+$ 201

4-(Pyridyl-4-methoxy)aniline; m/z $(M+1)^+$ 201

4-(Pyridyl-3-methoxy)aniline; m/z $(M+1)^+$ 201

4-Benzyloxy-3-chloroaniline; m/z $(M+1)^+$ 234

and, in appropriate cases, their hydrochloride salts.

4-Benzenesulphonylaniline was prepared by the published method (Helv. Chim. Acta., 1983, 66(4), p1046.

4-(Tributylstannyl)thiazole-2-carbaldehyde

4-Bromo-2-(tributylstannyl)thiazole (T.R. Kelly and F. Lang, *Tetrahedron Lett.*, 36, 9293, (1995)) (15.0g) was dissolved in THF (150ml) under a nitrogen atmosphere, cooled to –85°C and treated with *t*-BuLi (1.7M, in pentane, 43ml). The mixture was stirred at –85°C for 30min, and then *N*-formylmorpholine (8.4g) was added by syringe. After further stirring at –85°C for 10min the mixture was allowed to warm to room temperature. Water (200ml) was added and the mixture was extracted with diethyl ether (4 x 100ml). The combined ethereal extracts were washed with water, dried ($NaSO_4$), and concentrated *in vacuo*. Chromatography on silica, eluting with

10%ether/*i*-hexane, gave the title compound as a yellow oil; δH [$^2H_6$]DMSO 10.03 (1H,s), 8.29 (1H,s), 1.55(6H,q), 1.21-1.37 (6H,m), 1.09-1.20 (6H,m), 0.85 (9H,t).

(1-Benzyl-1H-indazol-5-yl)-(6-chloropyrido[3,4-d]pyrimidin-4-yl)-amine hydrochloride

Prepared according to Procedure A from 1-benzyl-1H-indazol-5-ylamine and 4,6-dichloropyrido[3,4-d]pyrimidine; δH [$^2H_6$]-DMSO 9.08 (1H,s), 8.92 (1H,s), 8.82 (1H,s), 8.23 (1H,d), 8.19 (1H,s), 7.80 (1H,d), 7.70 (1H,dd), 7.38-7.22 (5H,m), 5.69 (2H,s); m/z $(M + 1)^+$ 387.

(1-Benzyl-1H-indazol-5-yl)-(6-(5-[1,3-dioxolan-2-yl]-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine

(1-Benzyl-1H-indazol-5-yl)-(6-chloropyrido[3,4-d]pyrimidin-4-yl)-amine (4.28g), 2-(tributylstannyl)-5-(1,3-dioxolan-2-yl)-furan (J. Chem Soc., Chem. Commun., (1988), p560) (10g) and 1,4-bis(diphenylphosphino)butane palladium (II) chloride (1g) were heated at reflux in dioxane (150ml) for 24 hr (Procedure B). The solvent was removed *in vacuo* and the residue chromatographed on silica. Subsequent trituration gave the title compound as a yellow solid; δH [$^2H_6$] -DMSO 10.46 (1H, s), 9.17 (1H, s), 8.74 (1H, s), 8.52 (1H, s), 8.23 (1H, s), 8.18 (1H, s), 7.80-7.68 (2H, m), 7.41-7.22 (5H, m), 7.17 (1H, d), 6.80 (1H, d), 6.06 (1H, s), 5.71 (2H, s), 4.20-3.96 (4H, m).

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde

(1-Benzyl-1H-indazol-5-yl)-(6-(5-[1,3-dioxolanyl]-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine (3.03g) and 2N HCl (50ml) were stirred in THF (50ml) for 16 hr. The resulting precipitate was filtered and washed with water to give the hydrochloride salt of the product; δH [$^2H_6$]DMSO 11.70 (1H,s), 9.74 (1H,s) 9.30 (1H,s), 9.27 (1H,s), 8.85 (1H,s), 8.23 (1H,s), 8.18 (1H,s), 7.68-7.87 (3H,m), 7.55 (1H,d), 7.22-7.38 (5H,m), 5.71 (2H,s). Subsequent neutralisation with triethylamine in ethanol/water gave the title compound; δH [$^2H_6$] -DMSO 9.64(1H,s), 9.19 (1H,s), 9.09(1H,s), 8.72(1H,s), 8.12(2H,m), 7.71(2H,m), 7.63(1H,dd), 7.43(1H,d), 7.20(5H,m), 5.62(2H,s).

(1-Benzyl-1H-indol-5-yl)-(6-chloro-pyrido[3,4-d]pyrimidin-4-yl)-amine hydrochloride

Prepared according to Procedure A from 1-benzyl-1H-indol-5-ylamine and 4,6-dichloro-pyrido[3,4-d]pyrimidine; δH [$^2H_6$]DMSO 11.45(1H,s), 9.08(1H,s), 8.95(1H,s), 8.80(1H,s), 7.98(1H,d), 7.60(2H,m), 7.30(6H,m), 6.60(1H,d), 5.48(2H,s); m/z ($M+1^+$) 386.

(2-Benzyl-1H-benzimidazol-5-yl)-(6-chloro-pyrido[3,4-d]pyrimidin-4-yl)-amine

Prepared according to Procedure A from 5-amino-2-benzyl-1H-benzimidazole and 4,6-dichloro-pyrido[3,4-d]pyrimidine; δH [$^2H_6$]-DMSO 9.13(1H,s), 8.93(1H,s), 8.84(1H,s), 8.60(1H,s), 8.05(1H,dd), 7.88(2H,d), 7.50(6H, m), 4.61(2H,s); m/z (M + 1)$^+$ 387.

(4-Benzyloxyphenyl)-(6-chloro-pyrido[3,4-d]pyrimidin-4-yl)-amine

Prepared according to Procedure A from 4-benzyloxyaniline and 4,6-dichloro-pyrido[3,4-*d*]pyrimidine; δH ($CDCl_3$) 9.11 (1H,s), 8.78 (1H,s), 7.75 (1H,d), 7.56 (2H,dd), 7.40 (5H,m), 7.15 (2H,d), 5.10 (2H,s); m/z (M + 1)$^+$ 409.

5-(4-(4-Benzyloxy-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde

(4-Benzyloxyphenyl)-(6-chloro-pyrido[3,4-*d*]pyrimidin-4-yl)-amine (4.0g, 11.0mmol), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan (J. Chem. Soc., Chem Commun., (1988), 560) (6.0g, 14.0mmol) were reacted together in a procedure analogous to Procedure B above for 20hrs. The reaction mixture was allowed to cool, 1N HCl (50ml) added and stirred at room temperature for 15 minutes. The reaction was filtered and the residue washed with dioxane (20ml) and 2N HCl (20ml). The combined filtrate and washings were stirred at room temperature for a further hour. The dioxane was removed under vacuum, the reaction diluted with water and the solid which precipitated was collected by filtration, and washed with water, iso-hexane and acetone. This precipitate was converted to the free base by partitioning into a mixture of triethylamine, ethyl acetate and water. The organic phase was washed with water, dried (magnesium sulphate) and the solvent removed under vacuum. The residue was triturated with iso-hexane/ethyl acetate to give the product (2.41g, 52%) as a yellow solid; δH [$^2H_6$] -DMSO 10.60 (1H, b, NH), 9.83 (1H, s, CHO), 9.30 (1H, s, 2-H), 9.08 (1H, s, 5-H or 8-H), 8.76 (1H, s, 5-H or 8-H), 7.89 (1H, d, furan-H), 7.82 (2H, d, 2'-H, 6'-H), 7.65-7.42 (6H, m, 5x Ph-H, furan-H), 7.21 (2H, d, 3'-H, 5'-H), 5.26 (2H, s, OCH_2); m/z (M + 1)$^+$ 423.

(4-Benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-*d*]pyrimidin-4-yl)-amine

Reaction of (4-benzyloxyphenyl)-(6-chloro-pyrido[3,4-*d*]pyrimidin-4-yl)amine (5.44g, 15.0mmol), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan (10.4g, 24.2mmol) and bis(triphenylphosphine)palladium (II) chloride (catalytic amount) in dioxane (150ml) according to Procedure B, followed by purification by silica gel chromatography (eluted with 50-100% EtOAc/*i*-hexane), allowed the isolation of the dioxolane product (3.45g, 7.40mmol, 49%); δH [$^2H_6$]DMSO 10.28 (1H,s), 9.13 (1H,s), 8.69 (1H,s), 8.61 (1H,s), 7.71 (2H,d), 7.31-7.52 (5H,m), 7.14 (1H,d), 7.09 (2H,d), 6.77 (1H,d), 6.03 (1H,s), 5.15 (2H,s), 3.95-4.19 (4H,m).

This could then be converted to 5-(4-(4-Benzyloxy-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde (identical to that described above) using Procedure C.

5-(4-(4-(3-Fluorobenzyloxy)-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde

(6-(5-(1,3-Dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-(4-(3-fluorobenzyloxy)-phenyl)-amine (500mg) was treated with acid as in Procedure C. The product was collected by filtration as a beige solid (251mg); m/z 441 $(M+1)^+$.

5-(4-(4-(3-Fluorobenzyloxy)-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-3-carbaldehyde

(6-Chloropyrido[3,4-d]pyrimidin-4-yl)-(4-(3-fluorobenzyloxy)-phenyl)-amine (1g) and 5-(tributylstannyl)-furan-3-carbaldehyde (J.Org.Chem. (1992), 57(11), 3126-31) (1.84g) in dioxan (35ml) were reacted together as in Procedure B. The solvent was evaporated and the residue suspended in dichloromethane. The mixture was filtered through Celite™ and then evaporated. The residue was triturated with hexane giving a beige solid (1g); m/z 441 $(M+1)^+$.

(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido-[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

5-(4-(4-(3-Fluorobenzyloxy)-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde (200mg) and thiomorpholine (0.085ml) in dichloromethane (10ml) were reacted together as in Procedure D. Purification using a Bond Elut™ cartridge, followed by conversion into the hydrochloride salt, gave a dark red solid (165mg); δH

[$^2H_6$]DMSO 9.46 (1H,s) 9.22 (1H,s) 8.81 (1H,s) 7.86 (2H,d) 7.4-7.5 (1H,m) 7.1-7.35 (7H,m) 6.96 (1H,d) 5.2 (1H,d) 4.6 (2H,brs) 2.7-3.5 (8H,m); m/z 528 $(M+1)^+$.

(4-Benzyloxy-phenyl)-(6-(3-(1,3-dioxolan-2-yl)-phenyl)-pyrido[3,4-d]pyrimidin-4-yl)-amine

(4-Benzyloxy-phenyl)-(6-chloropyrido[3,4-d]pyrimidin-4-yl)-amine (1.4g) and 3-(1,3-dioxolan-2-yl)-phenyl-tributylstannane (3.08g) [A.Lee and W-C.Dai, Tetrahedron (1997), 53(3), 859-868] in dioxan (30ml) were reacted together as in Procedure B. The mixture was evaporated and the residue suspended in dichloromethane. This was then filtered through Celite™ and the solvent evaporated. The gummy residue was then triturated with hexane giving a beige solid . This material was further purified by column chromatography, giving a brown foam (252mg); m/z 477 $(M+1)^+$.

3-((4-(4-Benzyloxy-phenyl)-amino)-pyrido[3,4-d]pyrimidin-6-yl)-benzaldehyde

(4-Benzyloxy-phenyl)-(6-(3-(1,3-dioxolan-2-yl)-phenyl)-pyrido[3,4-d]pyrimidin-4-yl)-amine (250mg) was treated with acid as in Procedure C. The product was isolated by filtration as a brown solid (115mg); m/z 433 $(M+1)^+$.

(6-(5-(1,3-Dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-(4-phenoxy-phenyl)-amine

(6-Chloropyrido[3,4-d]pyrimidin-4-yl)-(4-Phenoxy-phenyl)-amine (1.82g) and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)-furan (3.75g) in dioxan (40ml) were reacted together as in Procedure B. The mixture was evaporated and the residue suspended in dichloromethane. This was then filtered through Celite™ and the solvent evaporated. The gummy residue was then triturated with hexane giving a beige solid (1.21g); m/z 485 $(M+1)^+$.

5-(4-(4-Phenoxy-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde

(6-(5-(1,3-Dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-(4-phenoxy-phenyl)-amine (500mg) was treated with acid as in Procedure C. The product was collected by filtration as a red solid (330mg); m/z 441 $(M+1)^+$.

(6-Chloropyrido[3,4-d]pyrimidin-4-yl)-(4-(3-fluorobenzyloxy)-phenyl)-amine

4,6-Dichloro-pyrido[3,4-d]pyrimidine (1g) and 4-(3-fluorobenzyloxy)aniline (1.08g) in acetonitrile (70ml) were reacted together as in Procedure A. The product was collected by filtration as a yellow solid (1.86g); m/z 381 $(M+1)^+$.

(6-(5-(1,3-Dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-(4-(3-fluorobenzyl-oxy)-phenyl)-amine

(6-Chloropyrido[3,4-d]pyrimidin-4-yl)-(4-(3-fluorobenzyloxy)-phenyl)-amine (1.85g) and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)-furan (3.82g) in dioxan (40ml) were reacted together as in Procedure B. The mixture was evaporated and the residue suspended in dichloromethane. This was then filtered through Celite™ and the solvent evaporated. The gummy residue was then triturated with hexane giving a beige solid (1.74g); m/z 485 $(M+1)^+$.

(4-Benzenesulphonyl-phenyl)-(6-(5-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

5-(4-(4-Benzenesulphonyl-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)furan-2-carbaldehyde, hydrochloride (250mg) and thiomorpholine (209mg) in dichloromethane (5ml) were reacted together as in Procedure D. Purification by Bond Elut™ cartridge, followed by conversion to the hydrochloride salt, gave an orange solid (55mg); δH $[^2H_6]$DMSO 9.56 (1H,s) 9.28 (1H,s) 8.88 (1H,s) 8.4 (2H,d) 8.0-8.1 (4H,m) 7.6-7.75 (4H,m) 7.32,6.97 (2H,2d) 4.62 (2H,s) 2.8-3.4 (8H,bm); m/z 544 $(M+1)^+$.

(6-Chloropyrido[3,4-d]pyrimidin-4-yl)-(4-phenoxy-phenyl)-amine

4,6-Dichloro-pyrido[3,4-d]pyrimidine (1g) and 4-(4-fluorobenzyloxy)aniline (1.08g) in acetonitrile (70ml) were reacted together as in Procedure A. The product was collected by filtration as a yellow solid (1.83g); m/z 381 $(M+1)^+$.

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]-pyrimidin-4-yl)-amine

(4-Benzenesulphonyl-phenyl)-(6-chloropyrido[3,4-d]pyrimidin-4-yl)-amine (3.67g) and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)-furan (6.9g) were reacted together in dioxan (100ml) as in Procedure B. Purification by column chromatography gave a cream solid (2.59g); δH $[^2H_6]$DMSO 10.6 (1H,s) 9.26 (1H,s) 8.82 (1H,s) 8.78 (1H,s)

8.25 (2H,d) 8.0-8.3 (4H,d+m) 7.65-7.8 (3H,m) 7.21 (1H,d) 6.82 (1H,d) 6.09 (1H,s) 4.0-4.2 (4H,m); m/z 501 $(M+1)^+$.

5-(4-(4-Benzenesulphonyl-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)furan-2-carbaldehyde hydrochloride

(4-Benzenesulphonyl-phenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine (2.59g) was treated with acid in tetrahydrofuran (70ml) as in Procedure C. The compound was obtained as a yellow solid after filtration (1.57g); δH [$^2H_6$]DMSO 9.7 (1H,s) 9.26 (1H,s) 9.11 (1H,s) 8.82 (1H,s) 8.19 (1H,s) 8.15 (1H,s) 7.95-8.03 (4H,m) 7.75 (1H,d) 7.58-7.7 (3H,m) 7.49 (1H,s); m/z 457 $(M+1)^+$.

7-Iodoquinazolin-4-one

7-Amino-quinazolin-4-one (R. Dempsy and E. Skito, Biochemistry, 30, 1991, 8480) (1.61g) was suspended in 6N HCl (20ml) and cooled in an ice bath. A solution of sodium nitrite (0.75g) in water (10ml) was added dropwise over 15 minutes. After a further 10 minutes, a solution of potassium iodide (1.66g) in water (5ml) was added dropwise. The mixture was warmed to 20°C and after 3 hours partitioned between ethyl acetate and sodium thiosulphate. The organic phase was dried and concentrated in vacuo to give the title compound (0.485g); m/z $(M+1^+)$ 271.

4-Chloro-7-iodoquinazoline

7-Iodoquinazolin-4-one (0.46g) was treated with phosphorous oxychloride (5ml) at reflux under nitrogen for 2 hours. The mixture was cooled, evaporated and partitioned between saturated aqueous sodium carbonate and ethyl acetate. The organic phase was dried and concentrated in vacuo to give the title compound (0.43g); m/z $(M+1^+)$ 291.

(4-Benzyloxy-phenyl)-(6-bromoquinazolin-4-yl)-amine hydrochloride

4-Chloro-6-bromoquinazoline (0.25g, 1.0mmol) and 4-benzyloxyaniline (0.25g, 1.3mmol) were mixed in 2-propanol (6ml) and heated at reflux for 10 mins (Procedure A). The solution was allowed to cool at room temperature and the 2-propanol removed *in vacuo*. The resulting solid was triturated with acetone to give the product as a yellow solid (0.39g, 88%); δH [$^2H_6$]-DMSO 11.60 (1H, b, NH), 9.21 (1H, s, 5-H), 8.86 (1H, s, 2-H), 8.20 (1H, d, 7-H), 7.90 (1H, d, 8-H),

7.65 (2H, d, 2'-H, 6'-H), 7.50-7.25 (5H, m, Ph-H), 7.10 (2H, d, 3'-H, 5'-H), 5.15 (2H, s, CH_2); m/z 405/407 (M+).

(4-Benzyloxy-phenyl)-(6-iodoquinazolin-4-yl)-amine hydrochloride

4-Chloro-6-iodoquinazoline (8g) was treated with 4-benzyloxyaniline (5.5g) in acetonitrile (500ml) at reflux under N_2 for 18 hours. Subsequent cooling and filtration gave the title compound (13.13g); δH [$^2H_6$]-DMSO 11.45 (1H, b, NH), 9.22 (1H, s, 5-H), 8.89 (1H, s, 2-H), 8.36 (1H, d, 7-H), 7.69 (1H, d, 8-H), 7.63 (2H, d, 2'-H, 6'-H), 7.52-7.29 (5H, m, Ph-H), 7.14 (2H, d, 3'-H, 5'-H), 5.18 (2H, s, CH_2); m/z $(M+1)^+$ 454.

6-Iodo-(4-(3-fluorobenzyloxy)-3-chlorophenyl)-quinazolin-4yl)amine

Prepared according to Procedure A from 4-(3-fluorobenzyloxy)-3-chlorophenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.83 (s, 1H); 8.92 (s, 1H); 8.58 (s, 1H); 8.09 (d, 1H); 8.00 (d, 1H); 7.61 (d, 1H); 7.52 (d, 1H); 7.44 (m, 1H); 7.20-7.33 (m, 3H); 7.15 (m, 1H); 5.21 (s, 2H); MS *m/z* 506 (M+1)

6-Iodo-(4-(3-fluorobenzyloxy)-3-fluorophenyl)-quinazolin-4yl)amine

Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-3-fluorophenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.83 (s, 1H); 8.92 (s, 1H); 8.57 (s, 1H); 8.08 (d, 1H); 7.85 (d, 1H); 7.53 (d, 1H); 7.50 (d, 1H); 7.43 (m, 1H); 7.30-7.20 (m, 3H); 7.15 (m, 1H); 5.20 (s, 2H); MS *m/z* 490 (M+1)

6-Iodo-(4-(3-fluorobenzyloxy)-3-methoxyphenyl)-quinazolin-4yl)amine

Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-3-fluorophenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR 400 MHz (DMSO-d6) 11.29 (bs, 1H0; 9.14 (s,1H); 8.87 (s,1H); 8.32 (d,1H); 7.62 (d,1H); 7.42 (m,1H); 7.34 (d,1H); 7.29-7.22 (m,3H); 7.18-7.08 (m,2H); 5.15 (s,2H); 3.80 (s,3H); MS *m/z* 502 (M+1)

6-Iodo-(4-benzyloxy-3-fluorophenyl)-quinazolin-4-yl)amine

Prepared according to Procedure A from (4-benzyloxy-3-fluorophenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.82 (s, 1H); 8.93 (s, 1H); 8.57 (s, 1H); 8.09 (d, 1H); 7.84 (d, 1H); 7.51 (m, 2H); 7.44 (d, 2H); 7.37 (m, 2H); 7.33 (m, 1H); 7.24 (m, 1H); 5.18 (s, 2H), MS *m/z* 472 (M+1)

6-Iodo-(4-(3-bromobenzyloxy)-phenyl)-quinazolin-4-yl)amine
Prepared according to Procedure A from (4-(3-bromobenzyloxy)-phenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.84 (s, 1H); 8.98 (s, 1H); 8.57 (s, 1H); 8.13 (m, 2H); 7.71 (d, 2H); 7.56 (d, 2H); 7.50 (m, 1H); 7.41 (m, 1H); 7.08 (d, 2H); 5.17 (s, 2H).

6-Iodo-(4-(3-fluorobenzyloxy)-phenyl)-quinazolin-4-yl)amine
Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-phenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.77 (s, 1H); 8.92 (s, 1H); 8.50 (s, 1H); 8.06 (d, 1H); 7.66 (d, 2H); 7.50 (d, 1H); 7.42 (m, 1H); 7.30-7.25 (m, 2H); 7.14 (m, 1H); 7.03 (d, 2H); 5.13 (s, 2H), MS *m/z* 472 (M+1)

6-Iodo-(4-(3-trifluoromethylbenzyloxy)-phenyl)-quinazolin-4-yl)amine
Prepared according to Procedure A from (4-(3-trifluoromethylbenzyloxy)-phenyl)-amine and 4-chloro-6-iodoquinazoline. ^{1}H NMR (DMSO-d6) 9.2 (bs, 1H); 8.91 (s, 1H); 8.37 (d, 1H); 7.89-7.72 (m, 8H); 7.19 (d, 2H); 5.30 (s, 2H).

(1-Benzyl-1H-indazol-5-yl)-(6-bromoquinazolin-4-yl)-amine (Procedure A)
6-Bromo-4-chloroquinazoline (5.0g) was reacted with 5-amino-1-benzyl-1H-indazole (5.0g) in acetonitrile (100ml) at 100^{o}C. The resulting precipitate was treated with triethylamine in ethyl acetate and water to give the title compound as a yellow solid, (7.37g); δH [$^2H_6$] -DMSO 9.93(1H,s), 8.82 (1H,d), 8.52(1H,s), 8.19(1H,s), 8.09(1H,s), 7.92(1H,dd), 7.65(3H,m), 7.25(5H,m), 5.62(2H,s).

(1-Benzyl-1H-indazol-5-yl)-(6-iodoquinazolin-4-yl)-amine hydrochloride
4-Chloro-6-iodoquinazoline (5.8g) was treated with 5-amino-1-benzyl-1H-indazole (3.90g) in acetonitrile (500ml) at reflux under N_2 for 18 hours (Procedure A). Subsequent cooling and filtration gave the title compound (8.26g); m/z $(M+1)^+$ 478.

(1-Benzyl-1H-indazol-5-yl)-(7-iodoquinazolin-4-yl)-amine hydrochloride
4-Chloro-7-iodoquinazoline (0.42g) was treated with 1-benzyl-1H-indazol-5-ylamine (0.323g) in acetonitrile (20ml) at reflux under nitrogen for 18 hours (Procedure A). The mixture was cooled and filtered to give the title compound (0.57g); m/z $(M+1^+)$ 478.

(1-Benzyl-1H-indazol-5-yl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride
Prepared according to Procedure A from 1-benzyl-1H-indazol-5-ylamine and 4-chloro-6-iodo-7-fluoroquinazoline. δH (400 MHz, DMSO-d_6): 11.55(s, 1H), 9.41(d, 1H), 8.8(s, 1H), 8.18(s, 1H), 8.05(d, 1H), 7.78(d, 1H), 7.69(d, 1H), 7.61(m, 1H), 7.29(m, 2H), 7.23(m, 3H), 5.67(s, 2H). ESI-MS m/z 496(M+1).

(4-Benzyloxyphenyl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride
Prepared according to Procedure A from 4-chloro-6-iodo-7-fluoro-quinazoline hydrochloride (4.02 grams, 11.65 mmoles), anhydrous dioxane (70 ml), dichloromethane (20 ml) and 4-benzyloxyaniline hydrochloride (2.83 grams, 12 mmoles). The mixture was stirred and heated to 110°C (oil bath temperature) for 16 hours. The mixture was cooled to room temperature and filtered to remove the precipitated solids. The solids were washed with cold anhydrous dioxane (100 ml) followed by cold anhydrous diethyl ether. The yellowish solid was collected and dried under vacuum at room temperature to yield 4.68 grams (79%) of the title compound. δH (400 MHz, DMSO-d_6): 11.2(s, 1H), 9.3(d, 1H), 8.79(s, 1H), 7.64(d, 1H), 7.58(d, 2H), 7.44(d, 2H), 7.38(m, 2H), 7.31(m, 1H), 7.09(d, 2H), 5.14(s, 2H) ESI-MS m/z 472(M+1).

(4-Benzenesulphonyl)phenyl-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride
Prepared according to Procedure A from 4-(benzenesulphonyl)phenylamine and 4-chloro-6-iodo-7-fluoroquinazoline. ^{1}H NMR (400 MHz, DMSO-d_6) δ: 10.89(s, 1H), 9.3(d, 1H), 8.79(s, 1H), 8.07(d, 2H), 8.0(d, 2H), 7.94(d, 2H), 7.67(m, 2H), 7.61(m, 2H). ESI-MS m/z 504(M-1).

6-Iodo-(4-(3-fluorobenzyloxy)-3-chlorophenyl)-quinazolin-4yl)amine
Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-3-chlorophenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.83 (s, 1H); 8.92 (s, 1H); 8.58 (s, 1H); 8.09 (d, 1H); 8.00 (d, 1H); 7.61 (d, 1H); 7.52 (d, 1H); 7.44 (m, 1H); 7.20-7.33 (m, 3H); 7.15 (m, 1H); 5.21 (s, 2H); MS *m/z* 506 (M+1).

6-Iodo-(4-(3-fluorobenzyloxy)-3-fluorophenyl)-quinazolin-4yl)amine
Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-3-fluorophenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.83 (s,

1H); 8.92 (s, 1H); 8.57 (s, 1H); 8.08 (d, 1H); 7.85 (d, 1H); 7.53 (d, 1H); 7.50 (d, 1H); 7.43 (m, 1H); 7.30-7.20 (m, 3H); 7.15 (m, 1H); 5.20 (s, 2H); MS *m/z* 490 (M+1).

6-Iodo-(4-(3-fluorobenzyloxy)-3-methoxyphenyl)-quinazolin-4yl)amine

Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-3-methoxyphenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR 400 MHz (DMSO-d6) 11.29 (bs, 1H0; 9.14 (s,1H); 8.87 (s,1H); 8.32 (d,1H); 7.62 (d,1H); 7.42 (m,1H); 7.34 (d,1H); 7.29-7.22 (m,3H); 7.18-7.08 (m,2H); 5.15 (s,2H); 3.80 (s,3H); MS *m/z* 502 (M+1)

6-Iodo-(4-benzyloxy-3-fluorophenyl)-quinazolin-4-yl)amine

Prepared according to Procedure A from 4-benzyloxy)-3-fluorophenylamine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.82 (s, 1H); 8.93 (s, 1H); 8.57 (s, 1H); 8.09 (d, 1H); 7.84 (d, 1H); 7.51 (m, 2H); 7.44 (d, 2H); 7.37 (m, 2H); 7.33 (m, 1H); 7.24 (m, 1H); 5.18 (s, 2H); MS *m/z* 472 (M+1)

6-Iodo-(4-(3-bromobenzyloxy)-phenyl)-quinazolin-4-yl)amine

Prepared according to Procedure A from (4-(3-bromobenzyloxy)-phenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.84 (s, 1H); 8.98 (s, 1H); 8.57 (s, 1H); 8.13 (m, 2H); 7.71 (d, 2H); 7.56 (d, 2H); 7.50 (m, 1H); 7.41 (m, 1H); 7.08 (d, 2H); 5.17 (s, 2H).

6-Iodo-(4-(3-fluorobenzyloxy)-phenyl)-quinazolin-4-yl)amine

Prepared according to Procedure A from (4-(3-fluorobenzyloxy)-phenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.77 (s, 1H); 8.92 (s, 1H); 8.50 (s, 1H); 8.06 (d, 1H); 7.66 (d, 2H); 7.50 (d, 1H); 7.42 (m, 1H); 7.30-7.25 (m, 2H); 7.14 (m, 1H); 7.03 (d, 2H); 5.13 (s, 2H); MS *m/z* 472 (M+1)

6-Iodo-(4-(3-trifluoromethylbenzyloxy)-phenyl)-quinazolin-4-yl)amine

Prepared according to Procedure A from (4-(3-trifluoromethylbenzyloxy)-phenyl)amine and 4-chloro-6-iodo-quinazoline. ^{1}H NMR (DMSO-d6) 9.2 (bs, 1H); 8.91 (s, 1H); 8.37 (d, 1H); 7.89-7.72 (m, 8H); 7.19 (d, 2H); 5.30 (s, 2H).

6-Iodo-(4-benzyloxy-3-trifluoromethyl-phenyl)-quinazolin-4-yl)amine

The mixture of 4-chloro-6-iodo-quinazoline (366mg, 1.26 mmol) and 4-O-benzyl-3-trifluoroaniline (405mg, 1.26 mmol) in isopropanol (12ml) was heated to reflux for 3.5 hours. Filtered, washed with isopropanol and dried. 535mg yellow solid was afforded. (yield: 76%). ESI-MS m/z 522 $(M+H)^+$.

(4-Benzyloxy-phenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine

(Procedure B)

The (4-benzyloxy-phenyl)-(6-bromoquinazolin-4-yl)-amine (1.5g, 3.7mmol), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)-furan (1.9g, 4.42mmol) and bis(triphenylphosphine)-palladium(II) chloride (catalytic) were dissolved in dioxan (30ml) and heated at reflux under nitrogen for 6 hr. The solvent was removed from the cooled reaction under vacuum, and the residual oil was triturated with iso-hexane/ethyl acetate to give the product (1.07g, 62%) as a pale yellow solid; δH $[^2H_6]$-DMSO 9.96 (1H, b, NH), 8.80 (1H, s, 5-H), 8.51 (1H, s, 2-H), 8.18 (1H, d, 7-H), 7.80 (1H, d, 8-H), 7.70 (2H, d, 2'-H, 6'-H), 7.58-7.30 (5H, m, 5 x Ph-H), 7.10 (3H, m, 3'-H, 5'-H, furan 3-H), 6.78 (1H, d, furan 4-H), 6.12 (1H, s, CHO_2), 5.18 (2H, s, $PhCH_2$), 4.22-3.94 (4H, m, 2 x CH_2); m/z 466 $(M+1)^+$.

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde

The 4-(4-benzyloxy-phenylamino)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (1.0g, 2.1mmol) was dissolved in THF (20ml) and hydrochloric acid (2N, 10ml) was added. The reaction was stirred at room temperature for 1 hr. The precipitate which formed was collected by filtration and washed with acetone, then partitioned between ethyl acetate, triethylamine and water. The organic phase was washed with water, dried (magnesium sulphate) and the solvent was removed under vacuum. Trituration with iso-hexane/ethyl acetate gave the product as an orange solid (610mg, 69%); δH $[^2H_6]$-DMSO 10.05 (1H, b, NH), 9.62 (1H, s, CHO), 8.95 (1H, s, 5-H), 8.48 (1H, s, 2-H), 8.24 (1H, d, 7-H), 7.80 (1H, d, 8-H), 7.70 (1H, d, furan 4-H), 7.59 (2H, d, 2'-H, 6'-H), 7.48-7.25 (6H, m, 5 x Ph-H, furan 3-H), 7.02 (2H, m, 3'-H, 5'-H), 5.09 (2H, s, CH_2); m/z 422 $(M+1)^+$.

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

4-(4-Benzyloxy-phenylamino)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (6.70g, 14.4mmol) was stirred at room temperature in a mixture of THF

(70ml) and 2N aqueous HCl (70ml) for 1 hour. The THF was removed *in vacuo* and the resulting precipitate was collected by filtration and washed with water to give the hydrochloride salt as a yellow solid (6.50g, 14.1mmol, 98%); δH [$^2H_6$]DMSO 12.15 (1H,s), 9.69 (1H,s) 9.58 (1H,s), 8.88 (1H,s), 8.50 (1H,dd), 8.02 (1H,d), 7.77 (1H,d), 7.62-7.74 (3H,m), 7.31-7.52 (5H,m), 7.15 (2H,d), 5.17 (2H,s).

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine

(1-Benzyl-1H-indazol-5-yl)-(6-bromoquinazolin-4-yl)-amine (4.3g), 2-(tributylstannyl)-5-(1,3-dioxolan-2-yl)-furan (J. Chem. Soc., Chem Commun., (1988), 560) (10g) and 1,4-bis(diphenylphosphino) palladium (II) chloride (1g) were heated at reflux in dioxane (150ml) for 24 hr. The solvent was removed *in vacuo* and the residue chromatographed on silica. Subsequent trituration gave the title compound δH [$^2H_6$] -DMSO 10.13 (1H, s), 8.85 (1H, s), 8.54 (1H, s), 8.20 (3H, m), 7.80 (3H, m), 7.30 (5H, m), 7.13 (1H, d), 6.79 (1H, d), 6.04 (1H, s), 5.71 (2H, s), 4.15 (4H, m).

(1-Benzyl-1H-indazol-5-yl)-[7-(5-(1,3-dioxolan-2-yl)-furan-2-yl)quinazolin-4-yl] amine hydrochloride

Prepared according to Procedure B from (1-benzyl-1H-indazol-5-yl)-(7-iodoquinazolin-4-yl)-amine hydrochloride and 5-(1,3-dioxolan-2-yl)-2-(tri-n-butylstannyl)furan; tlc Rf, 0.25 (100% EtOAc on silica); m/z ($M+1^+$) 490.

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (2.0g) and hydrochloric acid (2N, 50ml) were stirred in THF (20ml) for 16 hr. The resulting precipitate was filtered, washed with water and dried at 60°C *in vacuo* to give the product as a yellow solid (1.80g, 3.73g, 91%); δH [$^2H_6$] -DMSO 12.30 (1H, s), 9.79 (1H, s), 9.62 (1H, s), 8.85 (1H, s), 8.62 (1H, m), 8.31 (1H, s), 8.19 (1H, m), 8.10 (1H, d), 7.90 (2H, m), 7.78 (2H, m), 7.40 (5H, m), 5.80 (2H, s).

5-[4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-7-yl]-furan-2-carbaldehyde

(1-Benzyl-1H-indazol-5-yl)-[7-(5-(1,3-dioxolan-2-yl)furan-2-yl)quinazolin-4-yl]-amine hydrochloride (0.27g) was stirred in THF:2N HCl (2:1, 15ml) at 20°C for 1 hour. Filtration gave 5-[4-(1-benzyl-1H-indazol-5-ylamino)-quinazolin-7-yl]-furan-2-carbaldehyde, which was not further characterised.

5-(4-(1-Benzyl-1H-indazol-5-yl)-quinazolin-6-yl)-1-methyl-pyrrole-2-carbaldehyde

A stirred solution of 5-formyl-1-methyl-2-(tri-*n*-butylstannyl)pyrrole (prepared as described in F. Denat et al. J. Organometallic Chem., 423, 173,(1992)) (1.60g, 4.02mmol), (1-benzyl-1H-indazol-5-yl)-(6-iodoquinazolin-4-yl)-amine hydrochloride (1.0g, 1.95mmol), triethylamine (0.3ml, 0.218g, 2.2mmol) and 1,4-bis(diphenylphosphino)-butane palladium (II) chloride (0.2g, catalytic) in dioxane (20ml) was heated to reflux under a nitrogen atmosphere for 18 hours (Procedure B). The mixture was concentrated *in vacuo* and purified by silica gel chromatography, eluting with 60%-100% EtOAc/*i*-hexane. Concentration of the appropriate fractions gave the product as a yellow solid (0.460g, 1.00mmol, 51%); δH [$^2H_6$]DMSO 10.00 (1H,s), 9.64 (1H,s), 8.73 (1H,s), 8.59 (1H,s), 8.22 (1H,s), 8.13-8.16 (1H,m), 8.01 (1H,dd), 7.86 (1H,d), 7.68-7.75 (2H,m), 7.19-7.37 (6H,m), 6.59 (1H,d), 5.68 (2H,s), 3.98 (3H,s); m/z ($M+1^+$) 459.

4-(4-((4-Benzyloxy-phenyl)-amino)-quinazolin-6-yl)-thiazol-2-carbaldehyde

(4-Benzyloxy-phenyl)-(6-iodo-quinazolin-4-yl)-amine (2g) and 4-(tributylstannyl)-thiazol-2-carbaldehyde (3.28g) in dioxan (25ml) were reacted together as in Procedure B. The mixture was evaporated and the residue purified using column chromatography, giving a yellow solid (849mg); m/z 439 $(M+1)^+$.

(1-Benzyl-1H-indazol-5-yl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (260mg) and thiazolidine (0.18ml) in dichloromethane (20ml) were reacted as in Procedure D. Purification by trituration of the crude product with ether gave a yellow solid (126mg); δH [$^2H_6$]DMSO 10.5 (1H,s) 9.25 (1H,s) 8.90 (1H,s) 8.80 (1H,s) 8.60 (2H,d) 8.20 (3H,m) 7.70 (5H,m) 7.50,7.00 (2H,2d) 6.10 (2H,s) 4.55 (2H,s) 4.05 (2H,s) 3.55,3.40 (4H,2t); m/z 519 $(M+1)^+$.

(1-Benzyl-1H-indazol-5-yl)-(6-(5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quiazolin-6-yl)furan-2-carbaldehyde (260mg) and thiomorpholine (0.23ml) in dichloromethane (20ml) were reacted together as in Procedure D. Purification by trituration of the crude product with ether

gave a yellow solid (210mg); δH [$^2H_6$]DMSO 10.10 (1H,s) 8.80 (1H,s) 8.50 (1H,s) 8.10 (2H,d) 7.70 (2H,d) 7.25 (7H,m) 7.05,6.55 (2H,2d) 5.65 (2H,s) 3.80 (2H,brs) 2.80,2.70 (4H,brs); m/z 533 $(M+1)^+$.

(4-Benzyloxy-phenyl)-(6-(5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (80mg) and thiomorpholine (70mg) in dichloromethane (5ml) were reacted together as in Procedure D. Purification by column chromatography, followed by conversion to the hydrochloride salt, gave a yellow solid (56mg); δH [$^2H_6$]DMSO 12.1 (1H,s) 9.77 (1H,s) 8.92 (1H,s) 8.5 (1H,d) 8.05 (1H,d) 7.8 (2H,d) 7.4-7.6 (6H,m) 7.2 (2H,d) 7.0 (1H,d) 5.22 (2H,s) 4.62 (2H,brs) 2.9-3.7 (8H,bm); m/z 509 $(M+1)^+$.

(4-(4-Benzenesulphonyl)-phenyl)-(6-iodo-quinazolin-4-yl)-amine

4-Chloro-6-iodoquinazoline (1g) and 4-(benzenesulphonyl)-aniline (800mg) in acetonitrile (5ml) were reacted together as in Procedure A. The product was obtained by filtration as a yellow solid (1.5g); m/z 488 $(M+1)^+$.

(4-(4-Benzenesulphonyl)-phenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine

(4-(4-Benzenesulphonyl)-phenyl)-(6-iodoquinazolin-4-yl)-amine (530mg) and 5-(tributylstannyl)-furan-2-carbaldehyde (1.3g) in dioxan (15ml) were reacted together as in Procedure B. Purification using a Bond Elut™ cartridge gave a dark solid (547mg); m/z 500 $(M+1)^+$.

5-(4-(4-Benzenesulphonyl-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde

(4-(4-Benzenesulphonyl)-phenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (547mg) was treated as in Procedure C. Filtration gave the product as a dark solid (275mg); m/z 456 $(M+1)^+$.

(4-Benzenesulphonyl)phenyl-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride

Prepared according to Procedure A from 4-benzenesulphonyl)phenylamine and 4-chloro-6-iodo-7-fluoroquinazoline. δHNMR (400 MHz, DMSO-d_6) δ: 10.89(s, 1H), 9.3(d, 1H), 8.79(s, 1H), 8.07(d, 2H), 8.0(d, 2H), 7.94(d, 2H), 7.67(m, 2H), 7.61(m, 2H). ESI-MS m/z 504(M-1).

5-(7-Methoxy-4-(4-benzenesulphonyl)phenylamino-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

Prepared according to Procedure C from 6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-methoxy-quinazolin-4-yl-(4-benzenesulphonyl)phenyl-amine . δ^1H NMR (400 MHz, DMSO-d_6) 11.54(br s, 1H), 9.68(s, 1H), 9.13(s, 1H), 8.83(s, 1H), 7.95-8.06(m, 6H), 7.72(d, 1H), 7.68(m, 1H), 7.62(m, 2H), 7.46(s, 1H), 7.39(d, 1H), 4.12(s, 3H). ESI-MS m/z 486(M+1).

6-(5-(1,3-Dioxolan-2-yl)-furan-2-yl)-7-methoxy-quinazolin-4-yl-(4-benzenesulphonyl)phenyl-amine

Prepared according to Procedure B from 4-(4-benzenesulphonyl)phenyl-7-methoxy-quinazolin-4-yl-amine and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan. δ^1H NMR (400 MHz, DMSO-d_6) 10.36(s, 1H), 8.74(s, 1H), 8.58(s, 1H), 8.10(d, 2H), 7.93(m, 4H), 7.62(m, 3H), 7.32(s, 1H), 7.04(d, 1H), 6.68(d, 1H), 5.99(s, 1H), 4.09(m, 2H), 4.04(s, 3H), 3.95(m, 2H). ESI-MS m/z 530(M+1).

(4-Benzenesulphonyl)phenyl-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine

Prepared according to Procedure B from (4-benzenesulphonyl)phenyl-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan. δ^1H NMR (400 MHz, DMSO-d_6) 10.49(s, 1H), 8.88(d, 1H), 8.63(s, 1H), 8.1(d, 2H), 7.95(m, 4H), 7.65(m, 4H), 6.97(m, 1H), 6.75(d, 1H), 6.01(s, 1H), 4.09(m, 2H), 3.97(m, 2H). ESI-MS m/z 516(M-1).

(4-Benzenesulphonyl-phenyl)-(6-(5-(thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

5-(4-(4-Benzenesulphonyl-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (150mg) and thiomorpholine (134mg) in dichloromethane (4ml) were reacted together as in Procedure D. Purification using a Bond Elut™ cartridge, followed by conversion to the hydrochloride salt, gave a yellow solid (166mg); δH [$^2H_6$] DMSO 11.82(1H,s), 9.60 (1H,s), 8.94(1H,s), 8.45(1H,d), 8.23(2H,m), 8.00(5H,m), 7.66(3H,m), 7.41(1H,m), 6.95(1H,m), 4.64(2H,s), 3.4(8H,m); m/z 543 $(M+1)^+$.

(4-Benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine

Synthesized according to Procedure B from a solution of (4-benzyloxyphenyl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride (508 mg, 1 mmole), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan (645 mg, 1.5 mmole), diisopropylethyl amine (650 mg, 5 mmole), and dichlorobis(triphenylphosphine) palladium (140 mg, 0.2 mmole) in 6 ml of DMF under nitrogen was stirred at 100°C (oil bath temperature) for 4 hours. The cooled reaction mixture was extracted with water (100 ml) and ethyl acetate (100 ml). The organic phase was washed with brine (100 ml). The aqueous layers were combined and washed with additional ethyl acetate (100 ml). The organic layers were combined, dried with $MgSO_4$, filtered and concentrated to a residue. The residue was chromatographed on silica gel with a methanol-chloroform mixture. Fractions were collected, combined, and concentrated. The resultant solid was suspended in dichloromethane (10 ml) and diethyl ether was added facilitate precipitation. The solid was filtered and dried under vacuum at room temperature to yield a yellowish solid 287 mg (59%). ^{1}H NMR (400 MHz, DMSO-d_6) δ: 10.1(s, 1H), 8.85(d, 1H), 8.45(s, 1H), 7.6(m, 3H), 7.44(d, 2H), 7.38(m, 2H), 7.31(m, 1H), 7.03(m, 2H), 6.94(m, 1H), 6.74(d, 1H), 6.01(s, 1H), 5.1(s, 2H), 4.10(m, 2H), 3.96(m, 2H). ESI-MS m/z 482(M-1).

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine

Prepared according to Procedure B from (1-benzyl-1H-indazol-5-yl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan. δ ^{1}H NMR (400 MHz, DMSO-d_6) δ 10.27(s, 1H), 8.89(d, 1H), 8.46(s, 1H), 8.1(d, 2H), 7.69(d, 1H), 7.61(m, 2H), 7.26(m, 5H), 6.96(m, 1H), 6.74(d, 1H), 6.01(s, 1H), 5.65(s, 2H), 4.09(m, 2H), 3.96(m, 2H). ESI-MS m/z 506(M-1).

(4-Benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine

Prepared according to Procedure B from (4-benzyloxy-phenyl)-(6-bromoquinazolin-4-yl)-amine (1.5g, 3.7mmol) and 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)-furan (1.9g, 4.42mmol) dissolved in dioxan (30ml) and heated at reflux under nitrogen for 6 hr. The solvent was removed from the cooled reaction

under vacuum, and the residual oil was triturated with iso-hexane/ethyl acetate to give the product (1.07g, 62%) as a pale yellow solid; δH [$^2H_6$]-DMSO 9.96 (1H, b, NH), 8.80 (1H, s, 5-H), 8.51 (1H, s, 2-H), 8.18 (1H, d, 7-H), 7.80 (1H, d, 8-H), 7.70 (2H, d, 2'-H, 6'-H), 7.58-7.30 (5H, m, 5 x Ph-H), 7.10 (3H, m, 3'-H, 5'-H, furan 3-H), 6.78 (1H, d, furan 4-H), 6.12 (1H, s, $CH0_2$), 5.18 (2H, s, $PhCH_2$), 4.22-3.94 (4H, m, 2 x CH_2); m/z 466 $(M+1)^+$.

(4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine

Prepared according to Procedure B using 6-Iodo-(4-benzyloxy-3-trifluoromethyl-phenyl)-quinazolin-4-yl)amine (480 mg, 0.92 mmol), and 5-tributyltin-(1,3-dioxolan-2-yl)-furan (731mg, 1.38 mmol) in dioxane (10ml). The resulting product was a yellow solid (0.47 g, 95.8% yield). ESI-MS m/z 534 $(M+H)^+$.

5-(4-(4-Benzyloxy-3-trifluoromethylphenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde

Prepared according to Procedure C using (4-Benzyloxy-3-trifluoromethylphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (470mg, 0.88 mmol) solution in THF (5 ml) followed by the addition of 2N HCl (20ml) at room temperature. The resulting mixture was stirred for 30 minutes. Water was added (15ml) then filtered. The yellow solid was washed with water and small amount of ether and dried in vacuo (0.39 g, 84% yield). ESI-MS m/z 490 $(M+H)^+$.

(4-Benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-methoxy-quinazolin-4-yl)-amine

Prepared according to Procedure B from a solution of (4-benzyloxyphenyl)-7-methoxy-6-trifluoromethanesulphonyl-quinazolin-4-yl)-amine (0.30 g, 0.59 mmol), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan (0.37 g, 0.86mmol), lithium chloride (78 mg, 1.8 mmol), and dichloro-bis(triphenylphosphine)palladium (90 mg, 0.13 mmol) in 2 ml of DMF under nitrogen was stirred at 85-90° C for 50 minutes. The cooled reaction mixture was partitioned between 30 ml of water and 40 ml of ethyl acetate. The organic solution was washed with 30 ml of brine, dried with Na_2SO_4 and concentrated *in vacuo*. The residue was chromatographed on silica gel with hexanes/ethyl acetate (1:1 to 0:1). The resulting solution was concentrated to near dryness and the resulting solid suspended in ether and filtered to give 0.232 g of

product as a pale yellow solid. ^{1}H NMR (400 MHz, DMSO-d_6) δ: 9.90(s, 1H), 8.71(s, 1H), 8.40(s, 1H), 7.60(d, 2H), 7.44(d, 2H), 7.37(t, 2H), 7.30(t, 1H), 7.24(s, 1H), 7.00(m, 3H), 6.67(d, 1H), 5.99(s, 1H), 5.09(s, 2H), 4.10(m, 2H), 4.02(s, 3H), 3.95(m, 2H). ESI-MS m/z 496(M+1).

(4-Benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine

Prepared according to Procedure B from a solution of (4-benzyloxyphenyl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride (508 mg, 1 mmole), 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan (645 mg, 1.5 mmole), diisopropylethyl amine (650 mg, 5 mmole), and dichlorobis(triphenylphosphine) palladium (140 mg, 0.2 mmole) in 6 ml of DMF under nitrogen was stirred at 100°C (oil bath temperature) for 4 hours. The cooled reaction mixture was extracted with water (100 ml) and ethyl acetate (100 ml). The organic phase was washed with brine (100 ml). The aqueous layers were combined and washed with additional ethyl acetate (100 ml). The organic layers were combined, dried with $MgSO_4$, filtered and concentrated to a residue. The residue was chromatographed on silica gel with a methanol-chloroform mixture. Fractions were collected, combined, and concentrated. The resultant solid was suspended in dichloromethane (10 ml) and diethyl ether was added to facilitate precipitation. The solid was filtered and dried under vacuum at room temperature to yield a yellow solid 287 mg (59%). ^{1}H NMR (400 MHz, DMSO-d_6) δ: 10.1 (s, 1H), 8.85 (d, 1H), 8.45 (s, 1H), 7.6 (m, 3H), 7.44 (d, 2H), 7.38 (m, 2H), 7.31 (m, 1H), 7.03 (m, 2H), 6.94 (m, 1H), 6.74 (d, 1H), 6.01 (s, 1H), 5.1 (s, 2H), 4.10 (m, 2H), 3.96 (m, 2H). ESI-MS m/z 482(M-1).

(4-Benzyloxyphenyl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride

Prepared according to Procedure A from 4-chloro-6-iodo-7-fluoro-quinazoline hydrochloride (4.02 grams, 11.65 mmoles), anhydrous dioxane (70 ml), dichloromethane (20 ml), and 4-benzyloxyaniline hydrochloride (2.83 grams, 12 mmoles). The mixture was stirred and heated to 110°C (oil bath temperature) for 16 hours, cooled to room temperature and filtered to remove the precipitated solids. The solids were washed with cold anhydrous dioxane (100 ml) followed by cold anhydrous diethyl ether. The yellowish solid was collected and dried under vacuum at room temperature to yield 4.68 grams (79%) of the title compound. δH NMR (400 MHz, DMSO-d_6): 11.2(s, 1H), 9.3(d, 1H), 8.79(s, 1H), 7.64(d, 1H), 7.58(d, 2H),

7.44(d, 2H), 7.38(m, 2H), 7.31(m, 1H), 7.09(d, 2H), 5.14(s, 2H) ESI-MS m/z 472(M+1).

(1-Benzyl-1H-indazol-5-yl)-(6-iodo-7-fluoro-quinazolin-4-yl)-amine hydrochloride

Prepared according to Procedure A from 1-benzyl-1H-indazol-5-ylamine and 4-chloro-6-iodo-7-fluoroquinazoline. δH NMR (400 MHz, DMSO-d_6): 11.55(s, 1H), 9.41(d, 1H), 8.8(s, 1H), 8.18(s, 1H), 8.05(d, 1H), 7.78(d, 1H), 7.69(d, 1H), 7.61(m, 1H), 7.29(m, 2H), 7.23(m, 3H), 5.67(s, 2H). ESI-MS m/z 496(M+1).

(4-Benzyloxy-phenyl)-(6-((5-(2-methylthio-ethylamino)-methyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (100mg) and (methylthio)ethylamine (80mg) in dichloromethane (5ml) were reacted together as in Procedure D. Purification using column chromatography, followed by conversion to the hydrochloride salt gave a yellow solid (61mg). m/z 497 $(M+1)^+$.

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde

Prepared according to Procedure C from 4-(4-benzyloxy-phenylamino)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinazolin-4-yl)-amine (1.0g, 2.1mmol). The precipitate which formed was collected by filtration and washed with acetone, then partitioned between ethyl acetate, triethylamine and water. The organic phase was washed with water, dried (magnesium sulphate) and the solvent was removed under vacuum. Trituration with iso-hexane/ethyl acetate gave the product as an orange solid (610mg, 69%); δH [$^2H_6$]-DMSO 10.05 (1H, b, NH), 9.62 (1H, s, CHO), 8.95 (1H, s, 5-H), 8.48 (1H, s, 2-H), 8.24 (1H, d, 7-H), 7.80 (1H, d, 8-H), 7.70 (1H, d, furan 4-H), 7.59 (2H, d, 2'-H, 6'-H), 7.48-7.25 (6H, m, 5 x Ph-H, furan 3-H), 7.02 (2H, m, 3'-H, 5'-H), 5.09 (2H, s, CH_2); m/z 422 $(M+1)^+$.

5-(4-(4-Benzyloxy-phenylamino)-7-methoxy-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

Prepared according to Procedure C from (4-benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-methoxy-pyrido[3,4-d]pyrimidin-4-yl)-amine(0.301 g, 0.60 mmol). After stirring 45 minutes, the resulting suspension was filtered and washed with ether to give 0.26 g of product as a yellow solid. ^{1}H NMR (400 MHz, DMSO-d_6) δ: 11.67(br s, 1H), 9.68(s, 1H), 9.14(s, 1H), 8.78(s, 1H), 7.73(d, 1H), 7.52(d, 2H),

7.44(m, 3H), 7.39(m, 3H), 7.32(m, 1H), 7.11(d, 2H), 5.14(s, 2H), 4.12(s, 3H). ESI-MS m/z 452(M+1).

5-(4-(4-Benzyloxy-phenylamino)-7-fluoro-quinazolin-6-yl)-furan-2-carboxaldehyde hydrochloride

Prepared according to Procedure C from a stirred solution of (4-benzyloxyphenyl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine (0.51 grams, 1.1 mmol) in 20 ml of THF was added 5 ml of 1 N HCl. After stirring for 90 minutes, the resultant suspension was filtered and washed with diethyl ether (200 ml) to yield, after drying under vacuum, a yellow solid (0.32 grams, 61% yield). δ^1H NMR (400 MHz, DMSO-d_6) 11.52(s, 1H), 9.70(s, 1H), 9.25(d, 1H),8.76(s, 1H), 7.76(m, 2H), 7.55(d, 2H), 7.45(d, 2H), 7.33(m, 4H), 7.11(d, 2H), 5.14(s, 2H). ESI-MS m/z 440(M+1).

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-7-fluoro-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

Prepared according to Procedure C from (1-benzyl-1H-indazol-5-ylamino)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl)-amine. δ^1H NMR (400 MHz, DMSO-d_6) 11.68(s, 1H),9.71(s, 1H), 9.28(d, 1H), 8.74(s, 1H), 8.12(s, 1H), 8.02(s, 1H), 7.78(m, 3H), 7.58(m, 2H), 7.3(m, 5H), 5.65(s, 2H). ESI-MS m/z 462(M-1).

5-(4-(4-Benzenesulphonylphenylamino)-7-fluoro-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

Prepared according to Procedure C from 6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-fluoro-quinazolin-4-yl-(4-benzenesulphonyl)phenyl-amine. ^{1}H NMR (400 MHz, DMSO-d_6) δ: 10.96(s, 1H), 9.7(s, 1H), 9.16(d, 1H), 8.72(s, 1H), 8.07(d, 2H), 7.96(m, 4H), 7.75(m, 2H), 7.64(m, 3H), 7.29(m, 1H. ESI-MS m/z 472(M-1).

(1-Benzyl-1H-indazol-5-yl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-methoxy-quinazolin-4-yl)-amine

Prepared according to Procedure B from (1-benzyl-1H-indazol-5-yl)-7-methoxy-6-trifluoromethanesulphonyl-quinazolin-4-yl)-amine and 2-(tributylstannyl)-5-(1,3-dioxolan-2-yl)-furan . ^{1}H NMR (400 MHz, DMSO-d_6) δ: 10.07(s, 1H), 8.75(s, 1H), 8.42(s, 1H), 8.09(s, 2H), 7.64(m, 2H), 7.2-7.3(m, 6H), 7.01(d, 1H), 6.68(d, 1H),

5.99(s, 1H), 5.64(s, 2H), 4.09(m, 2H), 4.03(s, 3H), 3.94(m, 2H). ESI-MS m/z 520(M+1).

5-(4-(1-Benzyl-1H-indazol-5-yl)-7-methoxy-quinazolin-6-yl)-furan-2-carbaldehyde hydrochloride

Prepared according to Procedure C from (1-benzyl-1H-indazol-5-yl)-(6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-7-methoxy-quinazolin-4-yl)-amine. δH NMR (400 MHz, DMSO-d_6): 11.94(br s, 1H), 9.68(s, 1H), 9.20(s, 1H), 8.79(s, 1H), 8.19(s, 1H), 7.97(d, 1H), 7.81(d, 1H), 7.74(d, 1H), 7.57(m, 1H), 7.44(s, 1H), 7.41(d, 1H), 7.30(m, 2H), 7.24(m, 3H), 5.68(s, 2H), 4.13(s, 3H). ESI-MS m/z 476(M+1).

4-Chloro-6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinoline

6-Bromo-4-chloroquinoline (A. Lin and T.L. Loo, *J. Med. Chem.*, 21, 268 (1978)) (3.0g, 12.3mmol) was reacted with 5-(1,3-dioxolan-2-yl)-2-(tributylstannyl)furan furan (J. Chem. Soc., Chem Commun., (1988), 560) (5.8g, 13.2mmol), 1,4-tris (dibenzylideneacetone)dipalladium(0) (0.50g), tri(*o*-tolyl)phosphine (0.50g) and silver oxide (3.1g) according to Procedure B. The title compound was obtained as a pale brown solid (2.2g, 60%); m/z 303 $(M+1)^+$.

5-(4-Chloroquinolin-6-yl)-furan-2-carbaldehyde

4-Chloro-6-(5-(1,3-dioxolan-2-yl)-furan-2-yl)-quinoline (2.0g) was dissolved in THF (15ml) treated with hydrochloric acid (2N, 15ml) according to Procedure C. The mixture was basified with aqueous sodium carbonate and extracted with dichloromethane (x3). The combined extracts were washed with water, dried (Na_2SO_4), and concentrated *in vacuo* to give the aldehyde as a pale brown solid (1.1g); m/z 257/259 $(M+1)^+$.

4-Chloro-6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinoline

5-(4-Chloroquinolin-6-yl)-furan-2-carbaldehyde (0.5g) and thiomorpholine (0.800g) were reacted together in dichloromethane (15ml) according to Procedure D. Purification by flash chromatography on silica (eluting with ethyl acetate/methanol) gave the title compound as a orange oil; δH [$^2H_6$]DMSO 8.78 (1H,d), 8.30 (1H,s), 8.19 (1H,d), 8.09 (1H,d), 7.76 (1H,d), 7.20 (1H,d), 6.50 (1H,d), 3.67 (2H,s), 2.68-2.78 (4H,m), 2.55-2.68 (4H,m); m/z $(M+1^+)$ 344/346.

(4-Phenoxyphenyl)-(7-iodoquinolin-4-yl)amine

4-Chloro-7-iodoquinoline (10g, 34mmol) [Semenov, V. P.; Studenikov, A. N. Synthesis of 7-iodo-4-aminoquinoline derivatives. Khim. Geterotsikl. Soedin. (1980), Issue 7, 972-5] and 4-phenoxyaniline (6.38g, 34mmol) in butanol (75ml) were heated at gentle reflux (120°C) overnight (18 hrs). On cooling the resultant precipitate was collected by filtration and washed with acetonitrile (2x50ml). The resultant solid was suspended in chloroform (500ml) and 2N sodium carbonate solution (300ml) and heated at 75°C for 45 mins. On cooling the resultant precipitate was collected by filtration, washed with water (2x50ml) and dried to yield the product as a pale brown solid. (9.95g, 66%) δH [$^2H_6$] DMSO 8.35(3H,m), 8.20(1H,s), 8.10(1H,d), 7.85(1H,s), 7.35(4H,m), 7.15(4H,d), 6.75(1H,d).

(4-Phenoxyphenyl)-(7-(5-(1,3-dioxolan-2-yl)furan-2-yl)-quinolin-4-yl)amine

(4-Phenoxyphenyl)-(7-iodo-quinolin-4-yl)amine (2g) was treated with 2-(tributylstannyl)-5-(1,3-dioxolan-2-yl)-furan (2.16g) and tetrakis (triphenylphosphine) palladium (0) (0.26g) in dimethylacetamide (20ml) in accordance with Procedure B. Purification via column chromatography, eluting with ethyl acetate, followed by trituration with diethylether afforded a yellow solid (1.4g) ; δH [$^2H_6$] DMSO 9.10 (1H, s), 8.45 (2H, m), 8.13 (1H, s), 7.96 (1H, d), 7.41 (4H, m), 7.22 (1H, d), 7.20-7.03 (5H, m), 6.83 (1H, d), 6.75 (1H, d), 6.02 (1H, s), 4.13 (2H, m), 4.01 (2H, m); m/z 451 $(M+1)^+$.

4-(4-(4-Phenoxyphenylamino)-quinolin-7-yl) thiazole-2-carbaldehyde

Prepared according to Procedure B from (4-phenoxyphenyl)-(7-iodoquinolin-4-yl)amine (2g, 4.56mmol), 4-(tributylstannyl)thiazole-2-carbaldehyde (1.84g,4.56mmol) and dichlorobis(triphenylphosphine)palladium (II) (0.74g, 20mol%) heated at reflux overnight (18hrs) in dioxane (50ml). The cooled solution was filtered through a plug of Celite™, concentrated and triturated with iso-hexane (3x20ml). The resultant solid was purified via flash column chromatography on silica gel, eluting with 5% methanol in chloroform. The purified product was isolated as a yellow solid (0.85g, 44%). δH [$^2H_6$] DMSO 10.10(1H,s), 9.30(1,bs), 8.90(1Hs), 8.50(2H,s&d), 8.45(1H,d), 8.20(1H,d), 7.40(5H,bm), 7.10(4H,2d), 6.80(1H,d).

5-(4-(4-Phenoxyphenylamino)-quinolin-7-yl) thiazole-4-carbaldehyde

Prepared according to Procedure B from (4-phenoxyphenyl)-(7-iodoquinolin-4-yl)amine (0.876g,2mmol), 4-(1,3-dioxolan-2-yl)-5-tributylstannylthiazole (2.1 mmol), bis (triphenylphosphine) palladium (II) chloride (0.105g, 0.15mmol,7.5 mol %) and silver oxide (0.463g, 2mmol) heated under reflux under nitrogen for18 hr. The reaction mixture was then filtered through Harborlite™ and the filtrate was concentrated. The product was purified on Bond Elut™ cartridge, eluting sequentially with dichloromethane, chloroform, diethyl ether and ethyl acetate. The ketal (0.385g , 0.824 mmol) was stirred at room temperature in a mixture of THF (10ml) and 1N HCl (10ml) for 2 hr. The suspension was basified with 2N NaOH (5ml) and the THF was removed. The aqueous suspension was filtered and washed with water to give the product as a yellow solid (0.346g);m/z 424.

5-(4-(4-Phenoxyphenylamino)-quinolin-7-yl)furan-2-carbaldehyde

(4-Phenoxyphenyl)-(7-(5-(1,3-dioxolan-2-yl)furan-2-yl)-quinolin-4-yl)amine (1.4g) was treated with 1M aqueous hydrochloric acid-tetrahydrofuran (60ml , 1:1) in accordance with procedure C. Addition of 1M aqueous sodium hydroxide solution to pH 10 followed by extraction with ethyl acetate, drying (magnesium sulfate) and concentration to dryness afforded a yellow solid (1.2g) ; δH [$^2H_6$] DMSO 9.70 (1H, s), 9.10 (1H, s), 8.51 (2H, m), 8.35 (1H, s), 8.02 (1H, d), 7.73 (1H, d), 7.57 (1H, d), 7.42 (4H, m), 7.22-7.04 (5H, m), 6.88 (1H, d); m/z 407 $(M+1)^+$.

(1-*N*-(3-Pyridylmethyl)-1H-indazol-5-yl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine

4-Chloro-6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinoline (0.12mmol) was reacted with 5-amino-1-*N*-(3-pyridylmethyl)-1H-indazole (0.012mmol) in *n*-butanol (0.3ml) at 120°C for 18 hours to give the title compound as a dark brown solid; m/z $(M+1^+)$ 533.

Reaction of 4-chloro-6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinoline with an array of anilines

In a analogous manner 4-chloro-6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinoline (0.02mmol) was reacted with each of the following anilines (0.02mmol) in DMSO (0.5ml) at 120°C for 17 hours:

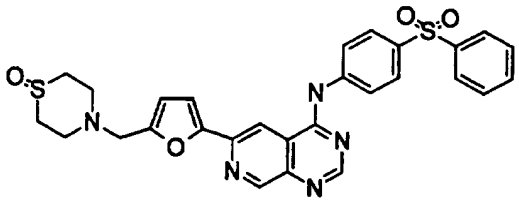
4-(3-Fluorobenzyloxyaniline);

5-Amino-1-*N*-benzyl-1H-indazole;
5-Amino-1-*N*-(2-pyridylmethyl)-1H-indazole;
5-Amino-1-*N*-(2,6-difluorobenzyl)-1H-indazole;
4-(3,4-Difluorobenzyloxyaniline);
5-Amino-1-*N*-(2,3-difluorobenzyl)-1H-indazole;
4-Phenoxyaniline.

The solvent was removed *in vacuo* to give the corresponding products, all of which were characterised by LC/MS:
(4-(3-Fluorobenzyloxy)-phenyl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 526;
(1-Benzyl-1H-indazol-5-yl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 531;
(1-*N*-(2-Pyridylmethyl)-1H-indazol-5-yl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 533;
(1-(2,6-Difluorobenzyl)-1H-indazol-5-yl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 568;
(4-(3,4-Difluorobenzyloxy)-phenyl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 544;
(1-(2,3-Difluorobenzyl)-1H-indazol-5-yl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 568;
(4-Phenoxy-phenyl)-(6-((5-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinolin-4-yl)-amine; m/z $(M+1)^+$ 494.

Examples

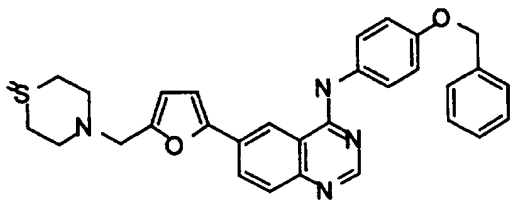
Example 1



(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

5-(4-(4-Benzenesulphonyl-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)furan-2-carbaldehyde, hydrochloride (150mg) and thiomorpholine-S-oxide (145mg) were reacted together in dichloromethane (5ml) as in Procedure D. Purification of the product by column chromatography, and then conversion to the hydrochloride salt gave a yellow solid (125mg); δH [$^2H_6$]DMSO 9.52 (1H,s) 9.3 (1H,s) 8.9 (1H,s) 8.4 (1H,s) 8.38 (1H,s) 8.0-8.1 (4H,m) 7.62-7.78 (3H,m) 7.34 (1H,d) 7.0 (1H,d) 4.52 (2H,s) 3.2-3.8 (8H,m); m/z 560 $(M+1)^+$.

Example 2

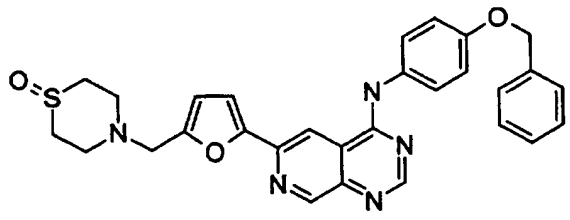


I

(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

5-(4-(4-Benzyloxy-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (200mg) and thiomorpholine-S-oxide (208mg) in dichloromethane (10ml) were reacted together as in Procedure D. Purification by column chromatography, followed by conversion into the hydrochloride salt, gave a yellow solid (230mg); δH [$^2H_6$]DMSO 9.72 (1H,s) 8.97 (1H,s) 8.54,8.08 (2H,2d) 7.8-7.9 (2H,d) 7.4-7.6 (6H,m) 7.22 (2H,d) 7.03 (1H,d) 5.27 (2H,s) 4.72 (2H,brs) 3.2-3.8 (8H,m); m/z 525 $(M+1)^+$.

Example 3

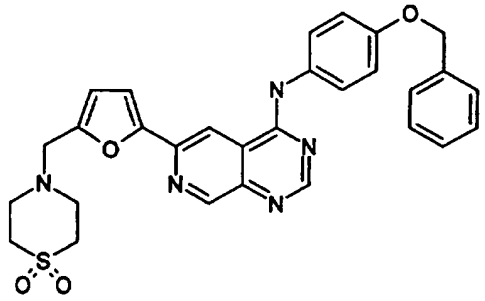


(4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine

5-(4-(4-Benzyloxy-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde (300mg) and thiomorpholine-S-oxide (0.34g) in dichloromethane (30ml) were reacted together as in Procedure D. Purification by column chromatography gave a yellow solid (224mg); δH [$^2H_6$]DMSO 10.25 (1H,s) 9.10 (1H,s) 8.65 (1H,s) 8.60 (1H,s) 7.70 (2H,d) 7.35-7.50 (5H,m) 7.10 (3H,m) 6.55 (1H,d) 5.15 (2H,s) 3.65 (2H,s) 2.7-3.0 (8H,m); m/z 526 $(M+1)^+$.

Also isolated from the above reaction, due to some thiomorpholine contaminant in the thiomorpholine-S-oxide was (4-Benzyloxy-phenyl)-(6-(5-(thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine obtained as a yellow solid (49mg); δH [$^2H_6$]DMSO 10.25 (1H,s) 9.10 (1H,s) 8.65 (1H,s) 8.60 (1H,s) 7.70 (2H,d) 7.35-7.50 (5H,m) 7.10 (3H,m) 6.55 (1H,d) 5.15 (2H,s) 3.65 (2H,s) 2.75 (4H,m) 2.70 (4H,m);m/z 510 $(M+1)^+$.

Example 4

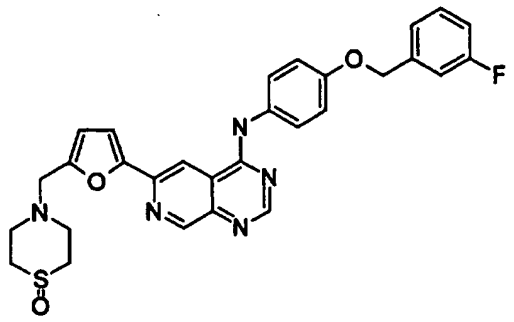


(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine hydrochloride

A suspension of (4-Benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine (50mg) and Oxone™ ($2KHSO_5.KHSO_4.K_2SO_4$) (117mg) in methanol (40ml) and water (10ml) was stirred at room temperature for 18h. The mixture was partitioned between chloroform and water, and the aqueous layer further extracted with chloroform. The combined organic phases were dried and evaporated, giving an orange solid. This material was re-suspended in water, and was stirred for 18h in the presence of sodium metabisulphite (73mg). The mixture was evaporated and the residue purified by column chromatography, giving a yellow solid (13mg); δH [$^2H_6$]DMSO 10.3 (1H,s)

9.15 (1H,s) 8.65 (1H,s) 8.6 (1H,s) 7.7 (2H,s) 7.35-7.5 (5H,m) 7.15 (3H,m) 6.65 (1H,d) 5.2 (2H,s) 3.9 (2H,s) 3.2 (4H,m) 3.1 (4H,m); m/z 542 $(M+1)^+$.

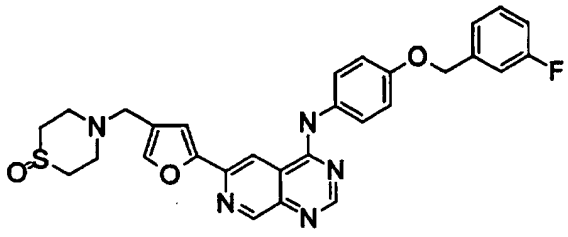
Example 5



(4-(3-Fluorobenzyloxy)-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

5-(4-(4-(3-Fluorobenzyloxy)-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-2-carbaldehyde (374mg) and thiomorpholine-S-oxide (373mg) in dichloromethane (20ml) were reacted together as in Procedure D. Purification by Bond Elut™ cartridge, followed by conversion to the hydrochloride salt, gave a yellow solid (191mg); δH [$^2H_6$]DMSO 9.4 (1H,s) 9.22 (1H,s) 8.8 (1H,s) 7.85 (2H,d) 7.47 (2H,q) 7.1-7.35 (5H,m) 6.98 (1H,d) 5.2 (2H,s) 4.68 (2H,s) 3.3-3.7 (8H,m); m/z 544 $(M+1)^+$.

Example 6

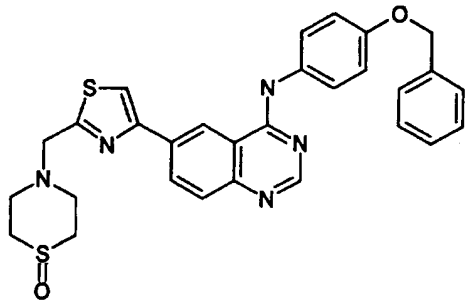


(4-(3-Fluorobenzyloxy)-phenyl)-(6-(4-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

5-(4-(4-(3-Fluorobenzyloxy)-phenylamino)-pyrido[3,4-d]pyrimidin-6-yl)-furan-3-carbaldehyde (300mg) and thiomorpholine-S-oxide (325mg) in dichloromethane (20ml) were reacted together as in Procedure D. Purification using a Bond Elut™

cartridge, followed by conversion to the hydrochloride salt, gave a dark yellow solid (71mg); δH [$^2H_6$]DMSO 9.33 (1H,s) 9.28 (1H,m) 9.08 (1H,s) 8.9 (1H,s) 8.25 (1H,s) 7.8 (2H,d) 7.64 (1H,s) 7.15-7.6 (5H,m) 5.28 (2H,s) 4.46 (2H,s) 2.8-3.4 (8H,m); m/z 544 $(M+1)^+$.

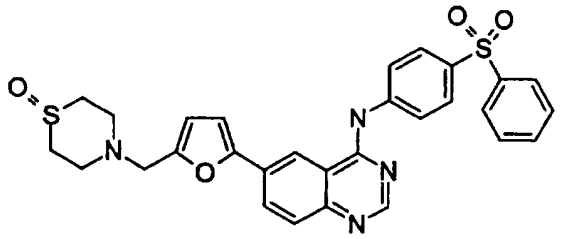
Example 7



(4-Benzyloxy-phenyl)-(6-(2-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-thiazol-4-yl)-quinazolin-4-yl)-amine dihydrochloride

4-(4-((4-Benzyloxy-phenyl)amino)-quinazolin-6-yl)-thiazole-2-carbaldehyde (70mg) and thiomorpholine-S-oxide (76mg) in dichloromethane (10ml) were reacted together as in Procedure D. Purification using a Bond Elut™ cartridge, followed by conversion to the hydrochloride salt, gave a yellow solid (50mg); δH [$^2H_6$]DMSO 12.1 (1H,s) 9.8 (1H,s) 8.85 (1H,s) 8.7 (1H,s) 8.65 (1H,d) 8.0 (1H,d) 7.7 (2H,m) 7.3-7.5 (5H,m) 7.1 (2H,d) 5.1 (2H,s) 4.8 (2H,brs) 3.0-3.7 (8H,m); m/z 542 $(M+1)^+$.

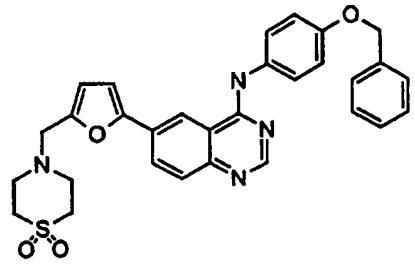
Example 8



(4-Benzenesulphonyl-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

5-(4-(4-Benzenesulphonyl-phenylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (150mg) and thiomorpholine-S-oxide (150mg) in dichloromethane (4ml) were reacted together as in Procedure D. Purification using a Bond Elut™ cartridge, followed by conversion to the hydrochloride salt, gave a yellow solid (130mg); δH [$^2H_6$] DMSO 11.80(1H,s), 9.65 (1H,s), 8.93(1H,s), 8.47(1H,d), 8.21(2H,m), 8.03(5H,m), 7.67(3H,m), 7.41(1H,m), 6.95(1H,m), 4.64(2H,s), 3.38(8H,m); m/z 559 (M+1).

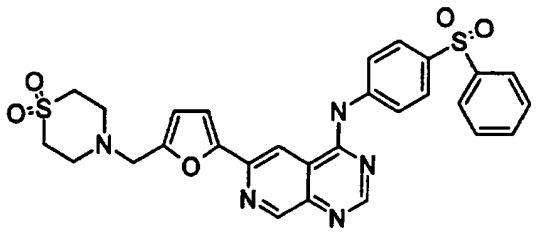
Example 9



(4-Benzyloxy-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

A solution of (4-benzyloxy-phenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride (0.085g) in methanol (40ml) and water (10ml) was treated with Oxone™ ($2KHSO_5.KHSO_4.K_2SO_4$) (0.176g), and stirred at room temperature for 24 hours. Sodium metabisulphite (0.54g) was added, and the mixture was stirred at room temperature for 67 hours, and then concentrated *in vacuo*. Purification by chromatography on silica (eluting with dichloromethane/ethanol/ammonia) gave the free base of the product. This was dissolved in ethyl acetate, treated with ethereal HCl (1M), and re-concentrated *in vacuo* to give the product as a yellow solid (0.051g); δH [$^2H_6$]DMSO 12.0 (1H,s), 9.55 (1H,s), 8.90 (1H,s), 8.45 (1H,d), 8.00 (1H,d), 7.72 (2H,d), 7.34-7.53 (5H,m), 7.12-7.20 (3H,m), 6.86 (1H,d), 5.18 (2H,s), 4.50 (2H,s), 3.40-4.10 (8H,m, obscured by water); m/z ($M+1^+$) 541.

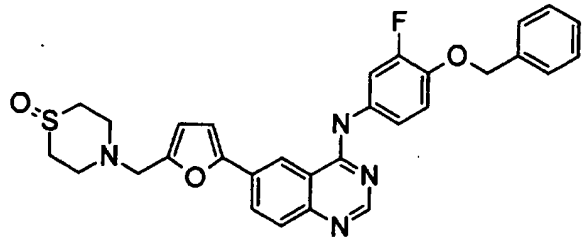
Example 10



(4-Benzenesulphonyl-phenyl)-(6-(5-(1,1-dioxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride

A solution of (4-Benzenesulphonyl-phenyl)-(6-(5-(thiomorpholin-4-ylmethyl)-furan-2-yl)-pyrido[3,4-d]pyrimidin-4-yl)-amine dihydrochloride (0.100g) in methanol (40ml) and water (10ml) was treated with Oxone™ (0.300g), and stirred at room temperature for 18 hours. Sodium metabisulphite (0.308g) was added, and the mixture was stirred at room temperature for 4 hours, and then concentrated *in vacuo*. Purification by chromatography on silica (eluting with dichloromethane/ethanol/ammonia) gave the free base of the product. This was dissolved in ethyl acetate, treated with ethereal HCl (1M), and re-concentrated *in vacuo* to give the product as a yellow solid (0.016g); δH [$^2H_6$]DMSO 11.1 (1H,s), 9.37 (1H,s), 9.06 (1H,s), 8.86 (1H,s), 8.34 (2H,d), 7.96-8.10 (4H,m), 7.60-7.75 (3H,m), 7.30 (1H,d), 6.92 (1H,d), 4.64 (2H,s), 3.90-4.25 (4H,m, obscured by water), 3.62-3.75 (4H, m); m/z ($M+1^+$) 576.

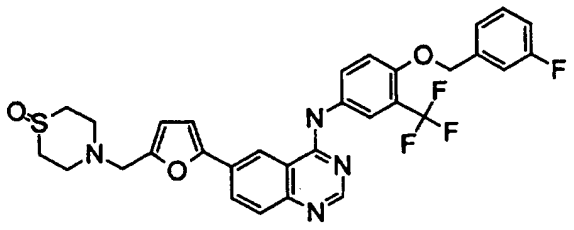
Example 11



(4-Benzyloxy-3-fluorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl) quinazolin-4-yl)amine

Prepared according to alternative Procedure D from 4-[(5-{4-[4-(benzyloxy)-3-fluoroanilino]-6-quinazolinyl}-2-furan-carboxaldehyde (1 equiv.) and thiomorpholine-S-oxide (1 to 3 equiv.). δ ^{1}H NMR (DMSO) 9.97 (s, 1 H), 8.75 (s, 1 H), 8.56 (s, 1 H), 8.16 (m, 1 H), 7.83 (m, 2 H), 7.51-7.31 (m, 7 H), 7.10 (d, 1 H), 6.58 (d, 1 H), 5.22 (s, 2 H), 3.73 (s, 2), 2.99-2.90 (m, 4 H), 2.80-2.77 (m, 4 H); m/z (M+1) 543.

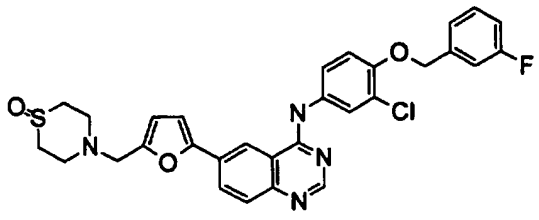
Example 12



(4-(3-Fluorobenzyl)oxy-3-trifluoromethylphenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)amine

Prepared according to alternative Procedure D from 4-[(5-{4-[4-[(3-fluorobenzyl)oxy]-3-(trifluoromethyl)anilino]-6-quinazolinyl}-2-furan-carboxaldehyde (1 equiv.) and thiomorpholine-S-oxide (1 to 3 equiv.). δ ^{1}H NMR (DMSO) 10.06 (s, 1 H), 8.74 (s, 1 H), 8.55 (s, 1 H), 8.19-8.12 (m, 3 H), 7.82 (d, 1 H), 7.48-7.09 (m, 7 H), 6.57 (d, 1 H), 5.34 (s, 2 H),3.72 (s, 2 H), 2.97-2.89 (m, 4 H), 2.79-2.73 (m, 4 H); m/z (M+1) 611.

Example 13

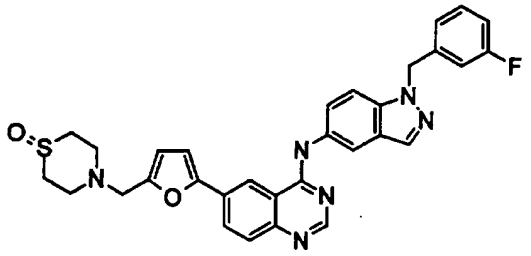


(4-(3-Fluorobenzyl)oxy)-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)furan-2-yl)quinazolin-4-yl)amine

Prepared according to alternative Procedure D from 4-[(5-{4-[4-[(3-fluorobenzyl)oxy]-3-chloroanilino]-6-quinazolinyl}-2-furan-carboxaldehyde (1 equiv.) and

thiomorpholine-S-oxide (1 to 3 equiv.). δ ^{1}H NMR (DMSO) 10.02 (s, 1 H), 8.80 (s, 1 H), 8.56 (s, 1 H), 8.17 (d, 1 H), 8.04 (d, 1 H), 7.82 (d, 1 H), 7.77 (m, 1 H), 7.50 (m, 1 H), 7.37-7.29 (m, 3 H), 7.21 (m, 1 H), 7.13 (d, 1 H), 6.57 (d, 1 H), 5.29 (d, 1 H), 3.74 (s, 2 H), 3.01-2.89 (m, 4 H), 2.80-2.75 (m, 4 H); m/z (M+1) 576.

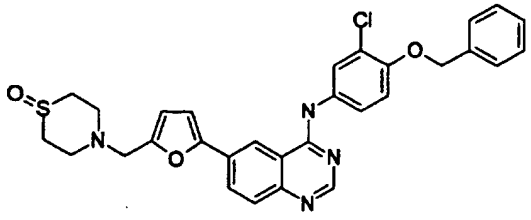
Example 14



(3-Fluorobenzyl-1H-indazol-5-yl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)amine

Prepared according to alternative Procedure D from 4-{[5-(4-{[1-(3-fluorobenzyl)-1H-indazol-5-yl]amino}-6-quinazolinyl)-2-furan-carboxaldehyde (1 equiv.) and thiomorpholine-S-oxide (1 to 3 equiv.). δ ^{1}H NMR (DMSO) 10.09 (s, 1 H), 8.81 (s, 1 H), 8.51 (s, 1 H), 8.25-8.16 (m, 3 H), 7.83-7.70 (m, 3 H), 7.40 (m, 1 H), 7.10 (m, 4 H), 6.58 (d, 1 H), 5.73 (s, 2 H), 3.74 (s, 2 H), 2.99-2.90 (m ,4 H), 2.81-2.76 (m, 4 H); m/z (M+1) 576.

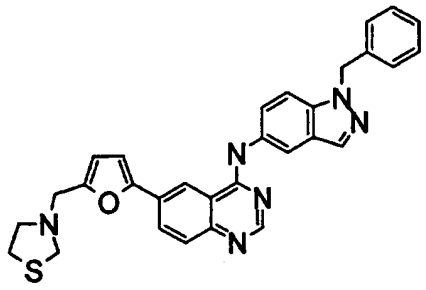
Example 15



(4-Benzyloxy-3-chlorophenyl)-(6-(5-(1-oxo-1.λ.4-thiomorpholin-4-ylmethyl)-furan-2-yl)quinazolin-4-yl)amine

Prepared according to alternative Procedure D from 4-[(5-{4-[4-(benzyloxy)-3-chloroanilino]-6-quinazolinyl}-2-furan-carboxaldehyde (1 equiv.) and thiomorpholine-S-oxide (1 to 3 equiv.) δ H^1 NMR (400 MHz, DMSO) 9.9 (s, 1 H), 8.7 (s, 1 H), 8.5 (s,1 H), 8.1 (d, 1 H), 7.9 (d, 1 H), 7.8 (d, 1 H), 7.7 (d, 1 H), 7.5 (d, 2 H), 7.4 (m, 2 H), 7.3 (m, 2 H), 7.0 (s, 1 H), 6.5 (s, 1 H), 5.2 (s, 2 H), 3.7 (s, 2 H), 2.9 (m, 4 H), 2.5 (m, 4 H); m/z $(M+1)^+$ 559.

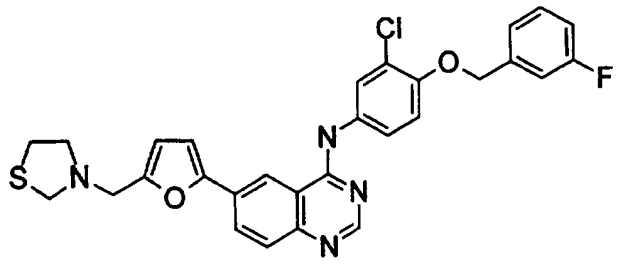
Example 16



(1-Benzyl-1H-indazol-5-yl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine

5-(4-(1-Benzyl-1H-indazol-5-ylamino)-quinazolin-6-yl)-furan-2-carbaldehyde (260mg) and thiazolidine (0.18ml) in dichloromethane (20ml) were reacted as in Procedure D. Purification by trituration of the crude product with ether gave a yellow solid (126mg); δH [$^2H_6$]DMSO 10.5 (1H,s) 9.25 (1H,s) 8.90 (1H,s) 8.80 (1H,s) 8.60 (2H,d) 8.20 (3H,m) 7.70 (5H,m) 7.50,7.00 (2H,2d) 6.10 (2H,s) 4.55 (2H,s) 4.05 (2H,s) 3.55,3.40 (4H,2t); m/z 519 $(M+1)^+$.

Example 17



(4-(3-Fluorobenzyloxy)-3-chlorophenyl)-(6-(5-thiazolidin-3-ylmethyl)-furan-2-yl)-quinazolin-4-yl)-amine dihydrochloride

To a suspension of the 4-[(5-[4-[4-[(3-fluorobenzyl)oxy]-3-chloroanilino]-6-quinazolinyl]-2-furan-carboxaldehyde (940 mg, 1.84 mmol) in 1,2-dichloroethane (20 mL) was added triethylamine (186 mg, 1.84 mmol) and glacial acetic acid (166 mg, 2.76 mmol). The reaction mixture was stirred at room temperature for 0.5 h, then thiazolidine (492 mg, 5.53 mmol) was added dropwise followed by addition of sodium triacetoxyborohydride (1.56 g, 7.37 mmol). The resulting solution was stirred at room temperature for 3 h, then poured into sat. sodium bicarbonate solution (50 mL) and extracted with dichloromethane (100 mL). The organic layer was washed with sat. sodium chloride solution, dried over anhydrous sodium sulfate, concentrated, and purified by silica gel chromatography to provide the corresponding amine as a yellow solid. The purified amine was dissolved in dichloromethane/methanol (3:1, 10 mL) and 4M HCl/dioxane (3 mL) was added. The resulting mixture was concentrated and filtered to provide the title compound as a yellow solid (640 mg, 64% yield). ^{1}H NMR (400 MHz, d_4 MeOH) δ 9.20 (s, 1H), 8.78 (s, 1H), 8.44 (d, 1H), 7.96 (s, 1H), 7.85 (d, 1H), 7.64 (m, 1H), 7.41 (m, 1H), 7.30 (m, 1H), 7.22 (m, 3H), 7.04 (m, 1H), 6.94 (d, 1H), 5.23 (s, 2H), 4.75 (s, 2H), 4.55 (s, 2H), 3.79 (bs, 2H), 3.34 (m, 2H); ESI-MS m/z 547.2 $(M+H)^+$.

Further examples

The compounds in Lists 1 to 102 above and their hydrochloride salts, if appropriate, are prepared by analogous techniques using the appropriate starting materials.

Biological Data

A/ Tyrosine kinase inhibition

Compounds of the present invention were tested for protein tyrosine kinase inhibitory activity in substrate phosphorylation assays and cell proliferation assays.

Substrate Phosphorylation Assay

The substrate phosphorylation assays use baculovirus expressed, recombinant constructs of the intracellular domains of c-erbB-2 and c-erbB-4 that are constitutively active and EGFr isolated from solubilised A431 cell membranes. The

method measures the ability of the isolated enzymes to catalyse the transfer of the γ-phosphate from ATP onto tyrosine residues in a biotinylated synthetic peptide (Biotin-GluGluGluGluTyrPheGluLeuVal). Substrate phosphorylation was detected following either of the following two procedures: a.) c-ErbB-2, c-ErbB4 or EGFr were incubated for 30 minutes, at room temperature, with 10mM $MnCl_2$, 10mM ATP, 5 mM peptide, and test compound (diluted from a 5mM stock in DMSO, final DMSO concentration is 2%) in 40mM HEPES buffer, pH 7.4. The reaction was stopped by the addition of EDTA (final concentration 0.15mM) and a sample was transferred to a streptavidin-coated 96-well plate. The plate was washed and the level of phosphotyrosine on the peptide was determined using a Europium-labelled antiphosphotyrosine antibody and quantified with a time-resolved fluorescence technique. b.) c-ErbB-2 was incubated for 50 minutes at room temperature with 15 mM MnCl2, 2 mM ATP, 0.25 mCi [γ-^{33}P] ATP/well, 5 mM peptide substrate, and test compound (diluted from a 10mM stock in DMSO, final DMSO concentration is 2%) in 50 mM MOPS pH 7.2. The reaction was terminated by the addition of 200 ml of PBS containing 2.5 mg/ml streptavidin-coated SPA beads (Amersham Inc.), 50 mM ATP, 10 mM EDTA and 0.1%TX-100. The microtitre plates were sealed and SPA beads were allowed to settle for at least six hours. The SPA signal was measured using a Packard Topcount 96-well plate scintillation counter (Packard Instrument Co., Meriden, CT).

Representative results are shown in Table 1 for EGFR and c-erbB-2 tyrosine kinase inhibition.

Table 1

	Substrate Phosphorylation	Substrate Phosphorylation
Example	EGFR	c-erbB-2
1	+++	+++
2	+++	+++
3	+++	+++
5	+++	+++
7	+++	+++
8	ND	+++
9	+++	+++
10	+++	+++

11	+++	+++
12	++	++
13	+++	+++
14	+++	+++
15	+++	+++
16	+++	+++
17	ND	+++

IC_{50} values	Symbol
< 0.10 μM	+++
0.10 – 1.0 μM	++
1.0 – 10.0 μM	+
> 10.0 μM	-
Not determined	ND

Cellular assays: Methylene Blue Growth Inhibition Assay

Human breast (BT474), head and neck (HN5) and gastric tumor (N87) cell lines were cultured in low glucose DMEM (Life Technologies 12320-032) containing 10% fetal bovine serum (FBS) at 37°C in a humidified 10% CO_2, 90% air incubator. The SV40 transformed human mammary epithelial cell line HB4a was transfected with either human H-ras cDNA (HB4a r4.2) or the human c-erbB2 cDNA (HB4a c5.2). The HB4a clones were cultured in RPMI containing 10% FBS, insulin (5 μg/ml), hydrocortisone (5 μg/ml), supplemented with the selection agent hygromycin B (50μg/ml). Cells were harvested using trypsin/EDTA, counted using a haemocytometer, and plated in 100 ml of the appropriate media, at the following densities, in a 96-well tissue culture plate (Falcon 3075): BT474 10,000 cells/well, HN5 3,000 cells/well, N87 10,000 cells/well, HB4a c5.2 3,000 cells/well, HB4a r4.2 3,000 cells/well. The next day, compounds were diluted in DMEM containing 100 mg/ml gentamicin, at twice the final required concentration, from 10mM stock solutions in DMSO. 100ml/well of these dilutions were added to the 100ml of media currently on the cell plates. Medium containing 0.6% DMSO was added to control wells. Compounds diluted in DMEM were added to all cell lines, including the HB4a r4.2 and HB4a c5.2 cell lines. The final concentration of DMSO in all wells was 0.3%. Cells were incubated at 37°C, 10% CO_2 for 3 days. Medium was removed by

aspiration. Cell biomass was estimated by staining cells with 100µl per well methylene blue (Sigma M9140, 0.5% in 50:50 ethanol:water), and incubation at room temperature for at least 30 minutes. Stain was removed, and the plates rinsed under a gentle stream of water, and air-dried. To release stain from the cells 100µl of solubilization solution was added (1% N-lauroyl sarcosine, Sodium salt, Sigma L5125, in PBS), and plates were shaken gently for about 30 minutes. Optical density at 620 nM was measured on a microplate reader. Percent inhibition of cell growth was calculated relative to vehicle treated control wells. Concentration of compound that inhibits 50% of cell growth (IC_{50}) was interpolated using nonlinear regression (Levenberg-Marquardt) and the equation, $y = V_{max}*(1-(x/(K+x))) + Y2$, where "K" was equal to the IC_{50}.

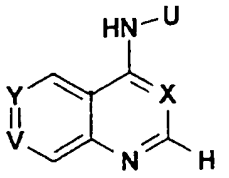
Table 2 illustrates the inhibitory activity of compounds of the present invention as IC_{50} values in µM against a range of tumor cell lines.

Table 2

Example	Cell Proliferation				
	HB4a c-erbB-2	HB4a ras	BT474	HN5	N87
1	+++	+	+++	+++	+++
2	+++	++	+++	+++	+++
3	+++	+	+++	+++	+++
5	+++	++	+++	+++	+++
7	+++	++	+++	+++	+++
8	+++	++	+++	+++	+++
9	+++	++	+++	+++	+++
11	+++	++	+++	+++	+++
12	++	++	+++	+++	+++
13	+++	++	+++	+++	+++
14	+++	+	+++	+++	+++
15	+++	+	+++	+++	+++
16	+++	-	+++	+++	+++

IC_{50} value	Symbol
< 5 μM	+++
5 – 25 μM	++
25 – 50 μM	+
> 50 μM	-
Not determined	ND

1. A compound of formula (I)



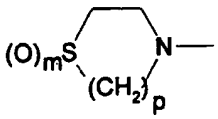
(I)

or a salt or solvate thereof;

wherein X is N or CH;

Y is CR^1 and V is N;
or Y is N and V is CR^1;
or Y is CR^1 and V is CR^2;
or Y is CR^2 and V is CR^1;

R^1 represents a group Q-(CH_2)q-Ar, wherein Q is a group of formula



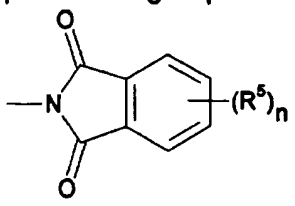
wherein m is 1 or 2; p is 1 or 2; q is 1, 2, 3 or 4; and Ar is selected from phenyl, furan, thiophene, pyrrole and thiazole, each of which may optionally be substituted by one or two halo, C_{1-4} alkyl or C_{1-4} alkoxy groups;

R^2 is selected from the group comprising hydrogen, halo, hydroxy, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkylamino and di[C_{1-4} alkyl]amino;

U represents a phenyl, pyridyl, 3H-imidazolyl, indolyl, isoindolyl, indolinyl, isoindolinyl, 1H-indazolyl, 2,3-dihydro-1H-indazolyl, 1H-benzimidazolyl, 2,3-dihydro-1H-benzimidazolyl or 1H-benzotriazolyl group, substituted by an R^3 group and optionally substituted by at least one independently selected R^4 group;

R^3 is selected from a group comprising benzyl, halo-, dihalo- and trihalobenzyl, benzoyl, pyridylmethyl, pyridylmethoxy, phenoxy, benzyloxy, halo-, dihalo- and trihalobenzyloxy and benzenesulphonyl;

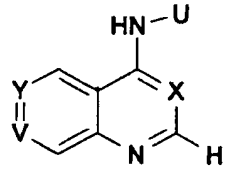
or R^3 represents a group of formula



wherein each R^5 is independently selected from halogen, C_{1-4} alkyl and C_{1-4} alkoxy; and n is 0 to 3;

each R^4 is independently hydroxy, halogen, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, amino, C_{1-4} alkylamino, di[C_{1-4} alkyl]amino, C_{1-4} alkylthio, C_{1-4} alkylsulphinyl, C_{1-4} alkylsulphonyl, C_{1-4} alkylcarbonyl, carboxy, carbamoyl, C_{1-4} alkoxycarbonyl, C_{1-4} alkanoylamino, N-(C_{1-4} alkyl)carbamoyl, N,N-di(C_{1-4} alkyl)carbamoyl, cyano, nitro and trifluoromethyl.

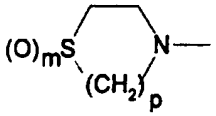
2. A compound of formula (I)



(I)

or a salt of solvate thereof;

wherein X, Y, V, R^2, U, R^3 and R^4 are as defined above in claim 1; and wherein R^1 represents a group Q-(CH_2)q-Ar, wherein Q is a group of formula



in which m is 0 and p is 1.

3. A pharmaceutical formulation comprising at least one compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof, together with one or more pharmaceutically acceptable carriers, diluents or excipients.

4. A compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof for use in therapy.

5. The use of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof in the preparation of a medicament for the treatment of a disorder mediated by abberant protein tyrosine kinase activity.

6. A method of treatment of a human or animal subject suffering from a disorder mediated by abberant protein tyrosine kinase activity which comprises administering to said subject an effective amount of a compound of formula (I) or a pharmaceutically acceptable salt or solvate thereof.

The Patent Office

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149

Application No: GB 9929973.7 **Examiner:** Peter Davey
Claims searched: 1-6 **Date of search:** 3 April 2000

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): C2C (CLZ, CNF, CRM)

Int Cl (Ed.7): C07D

Other: Online: CAS ONLINE, WPI, EPODOC, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
P,A	WO 99/35146 A1 (GLAXO), 15 July 1999, see eg. claims 1 and 19	1-6
P,A	WO 99/35132 A1 (GLAXO), 15 July 1999, see eg. claims 1 and 21	1-6

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.